VOL. 11, No. 6-7 JUNE-JULY 1957

CHRONICLE OF THE WORLD HEALTH ORGANIZATION

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SCHEDULE OF MEETINGS

15-20 July	**Expert Committee on Poliomyelitis, Geneva**
25-31 July	**Technical Conference on Insect Resistance, Geneva**
26-30 August	**Expert Committee on the Public Health Aspects of Water Fluoridation, Geneva**
5-11 September	**WHO Regional Committee for the Western Pacific Region, Eighth Session, Hong Kong**
9-14 September	**Study Group on Schizophrenia, Geneva**
10-13 September	**WHO Regional Committee for Europe, Seventh Session, Copenhagen**
16-21 September	**Expert Committee on Biological Standardization, Geneva**
16-21 September	**WHO Regional Committee for Africa, Seventh Session, Brazzaville**
16-21 September	**WHO Regional Committee for South-East Asia, Tenth Session, Rangoon**
16-27 September	**Pan American Sanitary Organization Directing Council X Meeting/ WHO Regional Committee for the Americas, Ninth Session, Washington, D.C.**
23-27 September	**WHO Regional Committee for The Eastern Mediterranean, Sub-Committee A, Alexandria**
7-11 October *	**WHO Regional Committee for the Eastern Mediterranean, Sub-Committee B**
23-28 October	**Expert Committee on Professional and Technical Education of Medical and Auxiliary Personnel, Geneva**

* Tentative dates

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PRINTED IN SWITZERLAND

TENTH WORLD HEALTH ASSEMBLY

The Tenth World Health Assembly, which was held from 7 to 24 May 1957 in Geneva, was attended by the delegates of 79 Member and Associate Member States. The proceedings were followed by representatives of the United Nations and its specialized agencies and of a number of inter-governmental and various non-governmental organizations in official relations with WHO, as well as by observers from several non-Member States.

In opening the session, Professor J. Parisot, President of the Ninth World Health Assembly, expressed the unanimous satisfaction felt at seeing the delegations of Albania, Bulgaria, Poland and the Union of Soviet Socialist Republics resume their places within the Organization. (The Assembly was informed, shortly before its closure, that Romania had also decided to resume active participation.) Referring to the tasks which devolve on WHO, and in particular to those connected with the introduction of automation and the utilization of new forms of energy, Professor Parisot declared:

> The policy followed with success, particularly in the fields of scientific research, professional and technical training and health education, the solid and co-ordinated regional structure, the fruitful collaboration with other specialized agencies—these are all sure guarantees of WHO's ability effectively to undertake new tasks and promote progress in health within the framework of economic and social advances.

Professor Parisot also paid a last tribute to the memory of Dr Gérard Montus, Deputy-Director of the Regional Office for Europe, and Professor R. Gautier, a former Assistant Director-General of WHO.

The Assembly unanimously elected Dr S. Al-Wahbi (Iraq) as President, and Dr M. El Materi (Tunisia), Dr D. A. Cameron (Australia) and Dr O. Vargas-Mendez (Costa Rica) as Vice-Presidents. Dr B. M. Clark (Union of South Africa) was elected Chairman of the Committee on Programme and Budget, and Mr Akira Saita (Japan) Chairman of the Committee on Administration, Finance and Legal Matters. The Executive Board was represented by its Chairman, Professor G. A. Canaperia, and Mr W. H. Boucher, Chairman of the Board's Standing Committee on Administration and Finance.

In his inaugural address, Dr Al-Wahbi, after welcoming the new State of Ghana as a full Member of the Organization, associated himself with Professor Parisot in extending greetings to the delegates of the countries resuming active participation in the work of the Organization. He said:

> This Tenth World Health Assembly is also enriched by the presence of four countries which we have sadly missed for some years past. A world health organization cannot hope to function at its full power if it is deprived of the participation of a substantial portion of the world's people, and all of us who desire above all to see this organization giving maximum service to the health of the world must wish that very shortly the World Health Organization will possess that universality of membership which, in the spirit of its founders, was the rock on which it was built.

On the subject of the efforts made by the Organization to achieve its objectives as laid down in the Constitution and in the programme of work prepared and approved by the Assembly, Dr Al-Wahbi stated:

> The work in 1956... proves that the World Health Organization has learnt, year by year, how to profit from its hard-won experience and how continually to adapt its policies and programmes to meet the evolving needs of its Member countries. After nine years of work, our Organization may justly claim that it is now equipped to carry out with maximum efficiency any tasks, however arduous and however delicate, that it may be called upon to perform.
>
> To develop this work has required wise overall direction from the World Health Assembly, ever-watchful guidance and untiring scrutiny from the Executive Board, and the probity, devotion, and

outstanding professional qualities of the Director-General and his staff. Had any one of these failed in its duty, our Organization would not today command the respect nor wield the authority that it does.

The delegate of India, supported by several other delegations, took occasion, at the time the Committee on Credentials submitted its report, to raise the question of the representation of China. The delegate of the Republic of China, supported by other delegations, declared that his Government was the sole legitimate representative of the Chinese people. No formal proposal having been made, the report of the Committee was adopted by 58 votes in favour, none against, and five abstentions.

The agenda for the session included examination of WHO's activities in 1956, examination and approval of the proposed programme and budget for 1958, and a number of constitutional, administrative, financial and legal questions. The discussions and decisions on the main items of this agenda are summarized hereunder.[1]

The award of the Léon Bernard Foundation and Darling Foundation prizes and the technical discussions on the role of the hospital in public health programmes are dealt with in separate accounts.

EXAMINATION OF WHO'S ACTIVITIES IN 1956

The Director-General, in presenting his annual report on the Organization's activities,[2] made the following remarks on the work that had been done:

> ... the some seven hundred projects in which the Organization has collaborated in 1956 in nearly a hundred and twenty countries or territories, show the considerable progress made in the campaign against communicable diseases, in improving public-health services, in developing environmental sanitation, and in furthering professional education and training.

Equally significant results have been obtained in other essential spheres, including epidemiology and health statistics, and also in the standardization of drugs and biological products.

As regards the latest of our activities—that relating to the peaceful uses of atomic energy—in accordance with your wishes, I have urged on governments the need for close collaboration between those in authority in the atomic industry and in public health. In this field, WHO has also taken up the study of one of the most difficult problems raised by the emergence of the new form of energy: the nature and extent of the genetic effects which the increase in background radiation is likely to have on mankind.

Referring to the 50th anniversary of the signing at Rome of the Agreement which led to the creation of the Office International d'Hygiène Publique and to the centenary of the birth of Sir Ronald Ross, the pioneer of modern malariology, the Director-General reminded his audience of the legacy left to the Organization as a result of these two events, and added:

> Among those listening to me, some will perhaps be surprised to hear that the World Health Organization now maintains a close and fruitful collaboration with nearly eighteen hundred scientific institutions, in particular medical research laboratories, all over the world. Nevertheless, in 1956, only forty of these institutions received financial aid from WHO. The others are working voluntarily for us, solely in the interests of scientific progress and in order to help us achieve our aims.
>
> It is in the same disinterested spirit that governmental and private bodies permit their best experts to answer the call of WHO when the latter asks for their advice in committees or study groups. At the present time, the names of more than a thousand of these scientists are included on WHO expert advisory panels. I would like, from the rostrum of this Assembly, to pay a tribute to the valuable assistance which our experts have always given in the work of our Organization, in which they play a fundamental part.

During the general discussion on the Director-General's report—the main points of which are summarized below—delegations put forward the views of their respective governments with regard to the achievements of the past year and the general over-all trends of the Organization's policy. They also reported on public health programmes

[1] The verbatim record of the plenary meetings, the minutes of Committees and Sub-Committees and the texts of resolutions and decisions of the Tenth World Health Assembly will appear in No. 79 of the *Official Records of the World Health Organization.*

[2] *Off. Rec. Wld Hlth Org.*, 1957, 75; see also *Chron. Wld Hlth Org.*, 1957, 11, 99.

in their own countries. (Some of the agenda items which were the subject of separate resolutions—malaria, vaccines, health statistics, cancer, atomic energy—are dealt with under the general heading "Programme for 1958".)

Programme of research

The Organization has set going a vast programme for the promotion and co-ordination of research, with the object of combating and preventing communicable diseases which are still a scourge to most countries of the world. This measure is justified—Professor Parisot believes—by WHO's concern to adapt its methods as knowledge grows and to place new scientific discoveries at the service of all peoples.

> When WHO was set up, when the lines along which it was to work were being discussed and its plan of action established, suggestions were put forward... drawing attention to the imperative need for creating large research institutes. Such an undertaking might have been useful in itself. But was it advisable for the new Organization to devote part of its effort to setting up and maintaining centres and laboratories which would demand considerable funds—and those inadequate when compared with the extensive investigations to be carried out—at the expense of urgently needed world health activities.
>
> Wisdom prevailed, and the decision taken was a courageous one in the light of possible future criticism. Those who did not hesitate to apply and develop it are to be congratulated. To stimulate, orientate and encourage research; to compare results; to co-ordinate them for the benefit of all, and in particular of those countries which are not at the present time in a position to carry out research themselves; to promote the free exchange of ideas among scientific workers throughout the world—these are the tasks to which WHO has been applying itself with ever growing success.

Dr Al-Wahbi voiced the general approval given to this programme:

> ... the Organization is going in the right direction by devoting increasing efforts to the co-ordination of research on the means of controlling or eradicating diseases. This does not mean that WHO is withholding its direct assistance to countries engaged in frontal attacks on a number of diseases which have been plaguing them for centuries... The increased accent put on WHO's role of leadership in research simply recognizes the fact that in many cases the very success of the [national] campaigns depends to a great extent on the results which can be achieved if hitherto disconnected research activities are co-ordinated through the machinery of an international organization such as WHO. This explains why there was an almost unanimous feeling among our colleagues, during the discussions on WHO's programme of work, that the World Health Organization must not only continue, but even widen, its participation in the investigations which are being made today on the major health problems of the world.

Tuberculosis

Several delegates reported a marked regression in tuberculosis in their countries. In Israel, the death rate has just reached another record low level of 7.4 per 100 000 of the population, and in Greece 20% of the sanatoria beds are vacant.

The recommendation made by the UNICEF/WHO Joint Committee on Health Policy that isoniazide be used for extensive domiciliary treatment, as part of anti-tuberculosis programmes, was considered judicious, particularly in the case of countries with limited resources. The delegate of Egypt stated that if general use were made of this method and if the programme paid particular attention to prophylaxis, a very effective weapon against tuberculosis would have been provided. In Egypt, domiciliary treatment of tuberculous persons was instituted a few years ago under the impetus of WHO demonstration and staff-training centres, and at the present time a well-organized home-treatment system operates in Cairo and Alexandria. According to the delegate of Viet Nam, the success of the tuberculosis control campaign being conducted in his country depends to a very large extent on the psychological preparation of the population. Without preliminary health education (which is being undertaken in Viet Nam by mobile teams covering the rural areas) there is a danger that anti-tuberculosis measures may be misunderstood by the mass of the people.

In view of the possibility that the bacillus may develop resistance to INH and to antibiotics used in the treatment of tuberculosis, it is important, the Tunisian delegate held, to eradicate the disease before any such resistance can develop and prejudice the measures already adopted. In Tunisia, an eradication pilot project based on the use of INH as an ambulatory, curative and preventive medium, will commence in July, and the experience acquired will certainly be useful to other countries.

The delegate of Denmark pointed out that the Danish Tuberculosis Index is not intended merely as an aid to research on BCG vaccination but rather as a large-scale study of tuberculosis in his country based on a thorough examination of the population carried out by various methods in 1951 and 1952. All tuberculosis cases occurring subsequently have been compared with those recorded over the period 1951-52, in respect of which a file comprising 2 million individual cards had been established. In this way it has been possible to determine to which group the new cases belong, i.e., the tuberculin-positive, the BCG-vaccinated or the tuberculin-negative groups. This study of the epidemiology of tuberculosis in a country where the disease is in the process of extinction cannot fail to be of interest to other countries which are about to enter upon the eradication phase.

The delegate of Ireland drew attention to the fact that it is important to continue the epidemiological study of tuberculosis even if only for the purpose of determining which case-finding methods are best adapted to the particular conditions of the various countries. In the last resort, he said, the success of chemotherapy depends upon good organization of case-finding and of supervision in the field.

Poliomyelitis

The delegate of Argentina recalled that from January to April 1956 there was an epidemic of poliomyelitis in his country; 3341 cases were registered, principally among children under two years of age, and the death-rate was high, especially in the Buenos Aires area. Between September 1956, when the authorities introduced the free vaccination campaign, and the end of the first quarter of 1957, about 2½ million children were vaccinated. From January to April 1957, only 302 cases of poliomyelitis were registered and the case-fatality rate was much lower.

In Australia, 3 million injections have been given without registration of any harmful effects. By the end of June 1956, 95% of children under 14 years of age had received at least two injections. For the current year, the poliomyelitis incidence figures are, roughly, 25% of those for the last three years taken together. It is not known whether this reduction is due to the vaccination measures or whether Australia is now experiencing a cycle of low incidence.

Poliomyelitis does not appear to be a serious problem in Egypt but, nevertheless, efforts are being made there to study its epidemiology. The delegate of Ethiopia stated that, whereas the Ethiopian people appear to acquire immunity to the disease from infancy, a large number of foreigners in the country seem to be affected.

The delegate of Israel stated that the disease now appears to be endemic in the Middle East and that a thorough study of its epidemiology in that region should be undertaken. A survey made in Israel showed that more than 85% of the cases were children under three years of age. A national campaign for the vaccination of all children between six months and three years has just been successfully concluded. Large-scale production of a Salk-type vaccine, now being prepared in Israeli laboratories, will make it possible to extend vaccination to other age-groups, and will perhaps even permit of exports.

According to the delegate of Sweden, the study of the antigenic effects of vaccination in animals and in man has given satisfactory results, and WHO's efforts in this direction are highly appreciated. Nevertheless, the work in the field of prevention of polio-

myelitis in humans is much less advanced, and the Swedish delegate suggested that data should be collected on the efficacy of vaccination programmes for the information of Member States planning future programmes. This proposal was strongly supported and it was suggested that WHO should institute a survey, by means of a questionnaire, in all countries where a start has been made with preventive vaccination, and should study the question of the organization of campaigns, which are liable to be expensive and to give rise to a number of administrative difficulties.

Treponematoses and venereal diseases

The eradication programmes are progressing in all the countries engaged in combating these diseases. In Indonesia, many millions of cases have been treated and it is estimated that 12 million still await treatment; in a number of areas the work is in the consolidation phase, and a system of surveillance has been established. In Haiti, the infection rate nowhere exceeds 0.3%; in a few months, operations will be decentralized and will concentrate upon the detection of any individual cases which may still persist. By the end of 1956, in the Philippines, more than 6 million persons had been examined and more than 260 000 cases of yaws had been detected and treated; the control surveys carried out in this country in areas of initial high prevalence have shown a progressive drop to rates of under 2% for active cases and less than 0.5% for infectious cases. In Albania, as a result of mass case-finding and treatment operations, there has been a very marked reduction in congenital syphilis. In Morocco, the campaign for the control of venereal diseases is well under way: more than a million persons were examined and treated in 1956.

The delegate of Egypt expressed the opinion that WHO's action in connexion with the control of treponematoses, and in particular of yaws and syphilis in tropical areas, had been remarkable. Nevertheless, he considered that some attention should be given to the problem of reactions to antibiotics and to other drugs used in mass treatment, seeing that this is a problem which has to be faced by the public health administrator and physician.

Leprosy

The delegate of India called for a considerable expansion of activities for the control of leprosy and expressed the hope that WHO would adopt a programme in this field as broad in scope as those undertaken for the control of malaria and tuberculosis. Leprosy, he said, is a very serious problem in India, where there are about 1½ million sufferers from the disease. The national authorities have taken large-scale measures, but they need the help of WHO and the other international organizations, especially in connexion with the new methods of treatment.

The Thailand delegate congratulated WHO on the efforts made to substitute domiciliary sulfone therapy for expensive and prolonged hospital treatment and for life-long isolation of patients in leprosaria or leper colonies. Thailand intends introducing a five-year plan, the first phase of which will aim at making all leprosy patients in the country non-contagious. According to an approximate estimate, made on the basis of sample surveys, there are 100 000 patients in Thailand.

In the Philippines leprosy cases of all types number about 20 000, or, roughly, one per 1000 of the population. Apart from the epidemiological work and domiciliary treatment carried out in liaison with the WHO leprosy control programme, the National Leprosy Service has begun to use plastic surgery as a means of rehabilitating patients who have become negative, thus enabling them to resume their normal place in society. A very great educational effort is needed to persuade the mass of the people that there is no justification at all for the social ostracism of leprosy sufferers.

In Egypt, the law relating to compulsory isolation is no longer applied as a result of the general confidence in the therapeutic value of sulfones. Isolation until the patient

is no longer contagious is now optional; when this stage is reached treatment continues through out-patient services. At the present time there are 10 central and 40 branch clinics for the diagnosis and treatment of leprosy. Their number is to be increased gradually until all detected cases can be treated.

In French Equatorial Africa, mobile leprosy teams have been operating for the past two years; they treat 100 000 patients.

A campaign along the same lines is being prepared in French West Africa; it is due to commence in 1957 and 300 000 patients are expected to be treated during the first year, rising to 500 000 within a short time. A similar campaign is being prepared in the French Cameroons. In Nigeria, an extensive programme for the treatment of 200 000 leprosy patients is in operation; the patients are temporarily isolated and undergo treatment by the permanent or the mobile services. The same thing is being done in Rhodesia. In the Belgian Congo, where 250 000 leprosy cases are being treated, the drugs are administered either orally or by injection.

Leprosy is also regressing in Greece, where a new law authorizes the treatment of patients at home and there is every hope of gradually stamping out the disease.

Bilharziasis

Egypt called upon the Organization to give bilharziasis the attention warranted by such a serious disease, seeing that it affects a large proportion of the world's inhabitants and, in the main, children; even countries at present free from the disease are by no means invulnerable. This delegate recalled the contention that there is no known single method of overcoming the disease and that it is therefore necessary to have recourse to a combination of methods. He nevertheless believes that bilharziasis can be effectively controlled by means of molluscicides; in Egypt, some success has already been achieved in exterminating the intermediate host snails and completely freeing a number of irrigation works of them. The delegate mentioned that WHO could render valuable service by facilitating delivery of the necessary molluscicides.

In Iraq, too, bilharziasis is a problem which may become more serious. The country is undertaking an extensive programme of economic development and the large-scale irrigation projects will create new zones where conditions will favour propagation of this disease. The delegate of this country asked the Director-General to consider the possibility of adopting new measures aimed at discovering, at an early date, an economical means of combating this scourge.

Bilharziasis and malaria are the two most important diseases in the Yemen, and this country's delegate associated himself with the remarks made by the Egyptian and Iraqi delegates. Statistics show that 70% of the children of the Yemen are found, at the first examination, to be suffering from bilharziasis.

The Sudan delegate described what is considered a very successful snail-elimination campaign in his country. Whereas the earlier snail index was about 100 000 per kilometre of canal, it is at present, in the area of operations, one per two kilometres.

As the USSR delegate remarked, bilharziasis contracted in infancy hampers development and leads to almost complete invalidity at about 25 years of age. Up to the present time there is, unfortunately, no sure cure for the disease; the known drugs are very toxic and their utilization is limited by the fact that they cannot be administered to children, pregnant women, tuberculous persons or persons suffering from heart diseases or intestinal or gastric disorders. The delegate of the USSR considered that WHO, in addition to controlling snail vectors, should undertake the working out of a treatment which could be applied to the millions of persons already suffering from bilharziasis.

Eye diseases

The measures adopted in Tunisia for the control of acute communicable eye diseases have met with great success, whereas

comparatively little has as yet been achieved in respect to trachoma. At the end of its second year the campaign against eye diseases will have covered the whole of the country, thus eliminating the cause of 90% of the cases of blindness. The Tunisian delegate drew attention to the fact that the Tunis Trachoma Institute could provide interesting research facilities, seeing that in epidemic periods it gives as many as 1000 consultations a day.

In Morocco, the campaigns for the control of trachoma, including seasonal trachoma-conjunctivitis, have been very successful. In Indonesia, on the other hand, the most satisfactory method for the mass treatment of trachoma is still being sought.

The Syrian representative observed that trachoma, which may lead to blindness, undoubtedly constitutes a greater danger than malaria for his country and for others in the same region, and he pressed for WHO to take the initiative in research to determine whether the use of dieldrin in antimalaria operations does not cause proliferation of flies and, consequently, an increase in the incidence of trachoma.

During the 18 months prior to the summer of 1956, 1 200 000 schoolchildren were examined in Taiwan and treated by local application of antibiotics. In the present phase of the campaign the preventive aspect has become more important than the treatment of diagnosed cases. Referring to the studies recommended by the Expert Committee on Trachoma into the role of various flies suspected of contributing to the transmission of trachoma and of seasonal conjunctivitis, the delegate of China declared that, although trachoma is very widespread in the region to which his country belongs (it affects 45-85% of the population), no signs have been noted pointing to a variation in the incidence of the disease during the fly-breeding season.

Zoonoses

The Egyptian delegation noted with interest the progress made, with WHO's help, in the control of rabies. Treatment of human patients is important in countries like Egypt where animal rabies is prevalent and the number of reported cases of people bitten is high (more than 18 000 in 1956). The authorities are very anxious to see the method of administration of the hyper-immune serum perfected and the serum utilized to the maximum. Since July 1954 a series of laboratory experiments and clinical tests have been in progress at the Anti-Rabies Institute in Cairo to discover whether there is any justification for placing new hopes in a combined vaccine and anti-serum treatment.

In China rabies causes a great deal of anxiety. The use of live, avianized vaccine in animals and the combined use of phenolized vaccine and hyper-immune serum (administered separately) in man, have been found very effective.

The delegate of New Zealand noted with pleasure that at a moment when New Zealand is preparing to undertake research on methods of controlling hydatidosis, a number of countries were taking similar steps on this disease, which was of considerable health and economic importance in his country. A more efficient anthelmintic seems to be needed—one which would not only kill the worm but also destroy the eggs.

The delegate of Argentina drew attention to the inauguration in 1956 of the Pan American Centre for Zoonoses. This Centre was set up as a result of collaboration between 18 countries of Latin America, with the assistance of WHO and of United Nations Technical Assistance. It operates in a rich, cattle-breeding area (Azul) of the province of Buenos Aires, and the cattle-breeders have provided all the material and assistance needed for conducting the investigations.

The delegate of Yugoslavia expressed the hope that this example would be followed in other regions. He also emphasized the necessity, in this field, for collaboration between veterinary and public health services, as well as between veterinary schools and schools of medicine. Students of human medicine and of veterinary medicine should,

he believed, meet to discuss their common problems.

Other diseases

Several delegations requested an increase in activities relating to trypanosomiasis, onchocerciasis, tinea and infant diarrhoea and dysentery. In regard to the programme on chronic diseases, attention was drawn to the desirability of including study of the problem of multiple sclerosis which is one of concern to many European countries, including those of Eastern Europe.

Maternal and child health

In view of the progress made in the control, and even eradication, of communicable diseases, the delegate of Argentina was of the opinion that the moment was approaching when WHO would have to devote more time to questions of organization of public health services. He pointed out that, since children under 15 years of age, pregnant women and nursing mothers represent about two-thirds of the world's population, prenatal, post-natal and child-care services are incontestably of paramount importance. Several delegations shared this view. Many countries make generous provision for maternal and child health services, but others require assistance—primarily in the training of personnel of all categories, from professors of paediatrics to auxiliary nurses.

Numerous delegations expressed their gratitude to UNICEF for the help given in this sphere. It was pointed out that the credits allocated by this Organization for activities in favour of mothers and children—most of which are carried out with the technical help of WHO—will soon reach the annual sum of $6 000 000, and that UNICEF has agreed to subsidize schools of medicine and public health for the purpose of developing training in paediatrics.

Nutrition

It was pointed out that malnutrition and ignorance play an almost greater role than does poverty in infant mortality. The investigations carried out in Central America by the Institute of Nutrition of Central America and Panama have shown, said the delegate of Argentina, that malnutrition is one of the principal causes of mortality in children under five—mortality which in itself represents more than half the general mortality in the countries in question. This situation is repeated in other regions of the world.

In Indonesia, protein deficiency is a major problem. The Central Nutrition Institute has set up schools for the training of nutritionists and assistant nutritionists, and it is proposed to include elementary instruction in nutrition in the syllabuses of schools of nursing. In Africa, too, protein deficiency is one of the most important forms of malnutrition, stated the delegate of Ghana; an attempt is being made to improve diet by means of vegetable proteins, although it has not yet been proved that these can replace animal proteins. This delegate asked for careful examination of the possibility of providing Africa with healthy sources of animal proteins.

On the advice of FAO, the Government of Iraq has set up a Board of Nutrition on which various ministries are represented, and has established a National Nutrition Institute equipped with 20 beds. Schoolchildren to the number of 240 000 have this year been given supplementary feeding. The Government of the Philippines expressed thanks for the assistance received from WHO in this field: as a result of the rice-enrichment programme there has been a considerable reduction of the anaemia caused by malnutrition and avitaminosis. In addition, 230 000 children benefit each day from the UNICEF distribution programme; supplementary rations and medicaments are supplied to 500 puericulture centres and 867 rural health units.

In Egypt, the Ministry of Health, in conjunction with the Ministry of Agriculture, has established a set of directives which constitute a short-term nutrition policy for the country as a whole. With the assistance of UNICEF and of CARE, the Government

has launched a programme for the distribution of milk and vitamins from which about 2½ million children, pregnant women and nursing mothers have benefited during the past year. A number of studies to determine the dietary habits and level of nutrition of several population groups have been carried out, as well as others for the purpose of establishing the nutritive value of certain foodstuffs. Education on diet is now included in the syllabuses of elementary and secondary schools, and the programmes of the nutrition courses in the universities have been reorganized.

Several delegations expressed satisfaction at the co-operation existing between UNICEF, FAO and WHO. Much appreciation was also recorded of the generous action of the Rockefeller Foundation in subsidizing research on the subject of staple foods rich in proteins, through the United States National Research Council and its Committee on Protein Malnutrition. The close relationship between work capacity (and therefore earning capacity) and the level of nutrition was emphasized by the delegates of Italy and Portugal. The latter stated that he was very interested to note that studies had been undertaken on the relationship between malnutrition and certain parasitic diseases—a question likely to become important in connexion with the over-all improvement of health in the countries of Africa. His delegation would also welcome a study on work capacity as related to level of nutrition in a tropical environment.

Health education

Several delegates voiced satisfaction at the results obtained in the field of health education of the public, and the hope of seeing more and more attention paid to this aspect of WHO's work. The remark was made many times during the discussions that health education is indispensable to the success of any health programme, since it is impossible to obtain the support and collaboration of the people unless they have been given prior instruction on what is required of them. The delegate of Egypt raised the question whether the moment had not perhaps arrived for examining the possibility of organizing regional health education centres for groups of countries with common traditions, structure and language.

Attention was called to a recent study of the over-all activities of UNICEF and WHO in the field of maternal and child health—a study which clearly stressed the importance of health education. From this study it emerged quite clearly that the activities of the maternal and child health centres and of the school health services would definitely benefit from an extra educational effort in the fields of hygiene and nutrition.

Occupational health

Here again, it was felt that there is a need for greater emphasis, particularly in the countries which are being rapidly industrialized. In particular, encouragement should be given to the training of the various types of personnel required, and to the creation of institutes of occupational health.

The delegate of Italy expressed the view that close contact should be maintained between occupational health services and public health services—preferably by placing the two under the same leadership. In Italy, as in many countries, these services come under two separate ministries, so that there is a tendency to develop parallel activities, without inter-communication.

The delegate of India wanted to see more attention paid to rehabilitation services. Occupational health, he said, was intended to reduce the health hazards of industrialization, but it could not completely fulfil its task without rehabilitation to prevent the loss to the industrial community of the services of the disabled.

Medical rehabilitation

The delegate of the Philippines subsequently took up the point made by the delegate of India in the discussion on occupational health, and urged that, in setting the

priorities of the WHO programme, the claims of medical rehabilitation should not be overlooked.

The general trend towards industrialization —he said—responsible as it is for large movements of population from rural areas to industrial centres, brings with it an increase in the numbers both of industrial and of traffic accidents. With this growing number of disabled in the population, the question of medical rehabilitation becomes of major importance, particularly for countries like the Philippines which are undergoing rapid industrialization. But these countries need advice and technical assistance in their efforts to establish the necessary services and thus far—for reasons of more urgent priority which he well understood—WHO has left this activity largely to other organizations. The proposal in the 1958 programme to convene an expert committee on medical rehabilitation heralded a more active interest, which he warmly welcomed.

Mental health

Great interest was shown in problems of mental health. It was suggested that the state of nervous depression which is often detected in useful citizens may be closely related to economic difficulties with which they are confronted in the communities in which they live, and perhaps also, in part, to permanent tension due to the conflict between the great creative forces on the one hand and the modern means of destruction which threaten the present generation on the other. Another point made was to the effect that there is no doubt that the stigma which attaches to mental disease is a constant obstacle to preventive and curative action.

Measures for the improvement of community psychiatric services might include: modernization of psychiatric hospitals; extramural facilities for early and follow-up care; study of measures for the prevention of mental disorders; creation of out-patient mental health clinics attached to general hospitals; psychological training of public health personnel; education of the public; instruction of mothers in regard to the child's psychological needs; improvement of housing conditions; better opportunities for recreation; the provision of social security for old age, disability and unemployment; improvement of social and economic conditions in rural and industrial communities; research in mental health.

Dental health

The representative of the United States of America remarked that although diseases of the teeth and their supporting structure are rarely evident in mortality tables, these conditions undoubtedly aggravate numerous morbid conditions. Dental health activities deserving consideration include epidemiological studies, preventive programmes, and educational programmes. Emphasis should be laid on treatment only in so far as diseases of the teeth and jaw are prejudicial to effective general health care.

The delegate of Venezuela expressed the view that activities in this field should be directed no longer solely to schoolchildren but also to adults, or at least to that part of the adult population which is already served by local health centres.

The delegate of Egypt stated that many countries, including his own, would like WHO to publish an authoritative report on the effects of water fluoridation. In this connexion, the delegate of Turkey pointed out that a large proportion of the inhabitants of his country are suffering from fluorosis due to excessive fluorine in drinking water. (In fact, WHO's plans of action in this domain are already well advanced. An Expert Committee on the Public Health Aspects of Water Fluoridation is to meet in August of this year.)

Food additives

A number of delegations expressed satisfaction at the interest WHO is taking in the question of food additives. According to the delegate of New Zealand, it is difficult for governments of small countries to keep

pace with technical progress in the food industry and, when new additives are placed on the market, it is not easy to obtain reliable information about them. In order to save individual countries from the necessity of undertaking independent research, the New Zealand delegate, together with the delegates of Germany and Australia, requested the Director-General to collect information from the literature and research laboratories of the various countries, and send this out to governments in an appropriate form.

Environmental sanitation

The countries in some regions, stated the delegate of Ceylon, are confronted by elementary sanitation problems of water supply and excreta disposal which are as difficult for them to solve as problems of water fluoridation and elimination of radioactive waste are for others. In Ceylon, the most serious of the communicable diseases have been successfully overcome, but at the present time every sixth outpatient and every eighth hospital patient are suffering from diseases due to defective environmental sanitation.

The representative of Ghana said his country's chief problem was to provide drinking-water supplies. In Ghana, as in many other tropical countries, large towns spring up with no provision for drainage and continue to develop without regard to excreta disposal facilities. Public health officials demand the necessary installations—but obtaining these is another matter.

The delegate of Greece stated that the rural sanitation programme undertaken in Macedonia with the assistance of WHO and UNICEF had resulted in a spectacular drop in morbidity rates in the region.

The delegate of Italy expressed the view that doctors should be encouraged to participate in the seminars organized for the purpose of studying certain aspects of environmental sanitation; this would enable them to become better acquainted with sanitary engineering problems. The same delegate was also of the opinion that epidemiological studies should always be carried out prior to the implementation of any environmental sanitation programmes, in order to ensure that the available funds are put to the best possible use.

Rural health

It was recalled that among its public health projects WHO gives first priority to those related to the development of rural health services.

The delegate of India stated that the WHO Regional Office for South-East Asia is giving very valuable assistance to his country in connexion with a scheme for the establishment of 3000 rural health centres during the next four years. Each of these centres, which will cover both the curative and the preventive aspects of public health, is to serve about 60 000 people.

A similar development is taking place in the Philippines. The delegate of the Philippines announced that the rural health programme in his country has been transformed into an effective network of about 1200 rural health stations scattered throughout all the provinces and employing more than 4000 persons on a full-time basis. Each rural health station is staffed by a physician, a public health nurse, a midwife, a dentist and a sanitary inspector.

Nursing

The implementation of public health programmes continues to be hampered—the delegate of Yugoslavia pointed out—by the fact that nursing training is still deficient in many respects. Attention was focused on this problem in the fruitful technical discussions held at the Ninth World Health Assembly. In this delegate's view, WHO should encourage the development of polyvalent nursing training, which would qualify nurses for work in various branches of public health administration and field activities.

According to the United States delegate, the effectiveness of public health programmes

depends to a very large extent on the public health nurse's contacts with families, particularly in rural areas; the importance of the nurse's role in over-all health programmes is too frequently overlooked.

The value of training auxiliary nursing personnel was stressed in discussion. The Costa Rica School of Nursing was cited as one example of a school that has instituted a special course for this purpose. Venezuela also has courses for the training of auxiliary nursing personnel for work in the country's public health services.

Professional education and training

The discussions on this part of the Organization's activities were summed up by the President of the Assembly in these words:

" We were all very impressed, I am sure, by the results of the review undertaken by the Assembly of the programmes of the Organization for promoting education and training of all types of health personnel. The most important features of these programmes are, in my opinion, the expansion of training facilities within the regions where the need is the greatest, the emphasis placed on the training of teachers, and the assistance to training schools in all parts of the world. I wish especially to commend also the keen interest WHO continues to take in adjusting medical curricula to the needs of the modern world. The fact that by the end of 1956 the fellowship programme had reached the six-thousand mark is symbolic of the importance of this part of WHO's efforts, the success of which will determine to a very considerable degree whether we shall be able to achieve the long-term objectives we are pursuing."

Reference was repeatedly made in the debates to the shortage in some countries of all types of health personnel. This is particularly acute in the countries where the development of health services is in the initial stage.

As in previous Health Assemblies, many speakers stressed the need for reorganizing the medical school curricula—both undergraduate and post-graduate—to provide more training in social and preventive medicine. WHO has, in fact, adopted a long-term programme designed to bring this about.

Speaking on this subject, the delegate of Yugoslavia deplored the fact that many professors are disinclined to include social and preventive medicine in the pre-clinical curriculum. He took the view that instruction in these subjects should be linked with biology, as well as physiology and pathology, and that pre-clinical studies should also include some basic instruction in health statistics. He further believed that training needed to be so organized as to ensure collaboration between physicians, veterinarians, sanitary engineers, nurses, and the other health workers.

The delegate of Cuba reported that many schools of medicine in the Americas had reorganized their curricula with the object of interesting the student in the preventive aspects of medicine right from the start of his training. The setting up of special schools of public health in Mexico, Chile, Brazil, Puerto Rico and Cuba bear witness to the great effort in this direction made by the countries of the Region.

The Soviet Union—stated its delegate—has acquired a great deal of experience in medical and para-medical training, and its health authorities are ready to collaborate in WHO's professional education and training programme.

Several delegations expressed the wish that more use should be made of fellowships in order to expand professional education and training. The health authorities in Poland—it was stated—are especially interested in WHO's fellowship programme; 75% of the doctors in Poland have qualified only during the last seven years and most of them would welcome the opportunity to pursue advanced studies in their respective specialities.

* * *

In the course of the discussion relating to examination of the Director-General's annual report for 1956, tributes were paid to the

work of Dr Shousha, Regional Director for the Eastern Mediterranean, who is leaving the Organization.

* * *

At the end of this debate, during which the Deputy Director-General, the Assistant Directors-General in charge of Departments and the Regional Directors replied to questions put by delegations, the Assembly noted with satisfaction the manner in which the programme was planned and carried out during 1956, in accordance with the Organization's established policies, and commended the Director-General on the work accomplished.

EFFECTIVE WORKING BUDGET AND BUDGET LEVEL FOR 1958

The Assembly decided that the effective working budget for 1958 should be US$13 566 130 and that the budget level for 1958 should be established in an amount equal to the effective working budget plus the assessments on inactive Members and on China.

In connexion with WHO's participation in the Expanded Programme of Technical Assistance, the Assembly expressed its satisfaction at the improved financial stability of the Programme. It also called the attention of Member States to the fact that their central co-ordinating authorities should give active support to regional projects in the Technical Assistance Programme in which they wished to participate in 1958 and future years.

PROGRAMME FOR 1958

The proposed programme submitted by the Director-General contains a description of country and inter-country programmes, work under the Technical Assistance Programme, programmes jointly assisted by WHO and UNICEF, and additional projects requested by governments. Professor Canaperia reported to the Assembly on the principal trends noted by the Executive Board. These include the development of local health services, particularly in rural areas; the development and improvement of public health laboratories; the expansion of work on nutrition; the work on mental health, with particular reference to the social conditions that give rise to mental disorders, especially those connected with industrialization; malaria eradication; yellow fever; smallpox; and the treponematoses. Lastly, a special place has been given to the health problems arising in connexion with the peaceful uses of atomic energy.

Malaria eradication

The Director-General, in submitting his report on the implementation of the resolutions adopted by the Eighth and Ninth World Health Assemblies with respect to intensification of antimalaria measures and eradication of the disease, mentioned that the Organization had attempted, within the limits of its resources, to assist governments in their antimalaria activities. To this end it has organized a certain number of meetings and regional and inter-regional conferences. It has given technical advice and sent out advisory teams on malaria eradication to a number of countries. It has promoted and co-ordinated research on such questions as the sorption of insecticides by mud walls and the use of chemotherapeutic substances combined with common salt. In connexion with vector resistance, the Organization is working on a vast research programme, which includes study of the physiology, biochemistry and genetics of resistance, the devising of techniques for testing anopheline susceptibility, and investigation of liability to resistance in particular species.

The Director-General pointed out that the Expert Committee on Malaria and malariologists all the world over are agreed that malaria eradication in many areas is no longer a technical but an administrative and financial problem. By March 1957, 63 countries and territories had adopted eradication as the aim of their antimalaria

activities.[3] That an eradication programme, being limited in time, is much more economical in the long run than a control programme —which is unending—does not overcome the hard fact that, for the period of the eradication programme, the annual expenditure will be higher than for the current control measures. Yet, there is only just over $100 000 in the Malaria Eradication Special Account. The Director-General informed the Assembly that unless large credits are made available immediately for areas where malaria eradication is feasible but cannot be effected without substantial outside aid, it will not be possible to bring the programme to a successful conclusion.

Most of the delegations of countries and territories which are engaged in, or are making financial and technical contributions to, the fight against malaria participated in the discussion on the report, at the end of which the Assembly adopted a resolution the gist of which is given below.

After noting with satisfaction the ever-increasing number of countries and territories which have adopted malaria eradication as the objective of their antimalaria policy, and recognizing that malaria is one of the major obstacles to improving the standard of health throughout the world, the Assembly, considering that malaria eradication may not be implemented unless extraordinary financial assistance is available to many countries over a period of time, requested the Executive Board and the Director-General to take definite and specific steps with a view to obtaining contributions to the Malaria Eradication Special Account from all possible sources, so as to enable the Organization to provide increased assistance towards achieving world-wide malaria eradication.

Furthermore, considering that with the progress of malaria eradication programmes in some areas it becomes more and more desirable that countries bordering on the eradication areas should also carry out a programme of eradication or at least apply effective control measures in an appropriate zone along the frontiers, the Assembly requested the Director-General to stimulate inter-country arrangements with a view to minimizing the danger of importation of sources of infection and to request all governments to supply information, not less frequently than once a year, with regard to the development of their malaria eradication or malaria control programmes, so that up-to-date information may be centralized in WHO and circulated to interested governments.

Finally, being aware of the necessity for developing research on problems now existing or liable to arise in connexion with the eradication of malaria, the Assembly invited governments to offer the collaboration of appropriate institutes for carrying out the investigations to be designated by experts, and requested the Director-General to stimulate and co-ordinate such research.

Health and vital statistics

The Assembly considered that the development of systematic procedures for the securing of adequate vital and health statistics was of basic importance to public health, and recognized the major contribution already made by the Organization in the field of classification of diseases, injuries and causes of death.

In discussion, several delegates referred to the imperative need for more accurate information on the health hazards to which populations in various parts of the world are exposed. It was admitted that epidemiology (a term still little used in relation to non-communicable diseases) could be the first pointer to the etiology of chronic diseases; greater attention should be paid, it was contended, to the anthropo-genetic aspect of epidemiology, seeing that in this field there is a lack not only of knowledge but also of trained specialists throughout the world.

In the opinion of many delegates, the statistics compiled by WHO are of real value as they provide the only available

[3] For further details on the status of campaigns throughout the world, see *Chron. Wld Hlth Org.*, 1956, **10**, 354; 1957, **11**, 3, 133, 136.

means of studying the incidence of diseases the world over. Nevertheless, the data need to be communicated and circulated more rapidly.

A number of delegations wanted WHO to pay more attention to the establishment of international standards in morbidity statistics. The publication of a handbook setting out the guiding principles for a health statistics system would constitute a useful complement to the United Nations handbook on *Principles for a Vital Statistics System.*

It was pointed out that national surveys of health conditions had been undertaken in several countries (Canada, Denmark, Japan, the United Kingdom and the United States), but that many of the techniques applied are still in the experimental stage. For this reason, delegates felt it would be desirable for national vital and health statistics committees to compare experiences and exchange views on methods and procedures for carrying out such surveys.

Various delegates expressed the opinion that the inadequacy of national statistics—which makes evaluation of health conditions in various parts of the world difficult—is due as much to social and administrative as to purely technical causes. Although the adoption of international standards would be important for many countries, there is no doubt that the establishment of rational vital and health statistics systems adapted to the social and administrative structures of the various countries raises certain problems of methodology. On the proposal of the delegate of the United States, the Assembly requested the Director-General to consider the measures by which the Organization, in collaboration with the United Nations where appropriate, can most effectively continue to assist in the development of both the technical and programme aspects of vital and health statistics systems, bearing in mind that such measures might include an appraisal of the various types of technical and administrative procedures most likely to meet the needs of such systems in different types of social and administrative framework, the analysis and interchange of information on national experience, and the further development and establishment of international standards in health statistics.

Epidemiology of cancer

The Assembly unanimously adopted a resolution relating to the epidemiology of cancer sponsored by the delegations of Australia, France, Iran, Netherlands, Poland, United Kingdom, USSR and United States of America. In this resolution, the Tenth World Health Assembly declared itself as: " aware that cancer is a source of untold suffering to thousands of people, that it casts a shadow over many a home, and that its repercussions cannot fail to have a considerable impact on economic and social well-being, especially in countries with an aging population ".

It also noted that cancer puts an end to the lives of thousands of people each day throughout the world and that its problems continue to baffle the research of medical science.

Under this resolution, the Organization is to undertake an important programme of research on cancer epidemiology. To this end, the Director-General is requested to continue the collection and publication of international statistics, mainly of mortality, but also of morbidity so far as practicable, and to organize an advisory centre on the objectives and methods of cancer registration. The work on the formulation of international definitions of nomenclature and statistical classification, including cancer staging, is to be continued (a study group on histological definitions of cancer types is meeting in Oslo from 24 to 28 June 1957). The Director-General is to consider the desirability and urgency of co-ordinating and expanding work on cancer epidemiology and statistics for the purpose of contributing more effectively to national needs through improved international liaison.

The Assembly recommended that in work on cancer epidemiology care should be taken to bear in mind the occupational and other environmental conditions likely to have an

influence on the frequency of the various forms of the disease and therefore to be of etiological significance. Among possible carcinogenic factors, the following were mentioned during the debates: air pollution in towns; certain types of water pollution; proximity of electrical plant; existence of oil or noxious gases in the sub-soil; certain occupations and professions; food additives; certain diseases (in some regions it has been found that 5% of cancer is associated with bilharziasis); and cumulative doses of radiation as a result of increased utilization of X-rays.

It was pointed out during the discussion that the relationship of cancer and leukaemia to heredity deserved study.

Evaluation and production of vaccines

The Director-General submitted to the Assembly a report on progress made in the evaluation and production of typhoid, smallpox and triple diphtheria-pertussis-tetanus vaccines.[4]

The controlled field trials carried out in Yugoslavia of two typhoid vaccines, one heat-killed and phenol-preserved and the other alcohol-killed and alcohol-preserved, have clearly demonstrated that current laboratory tests of these vaccines do not permit the prediction of clinical results in man. Typhoid vaccines which confer a certain degree of protection do exist, but the techniques for their production and the best biological assays to be applied to them have still to be worked out.

It is now possible to prepare a dried smallpox vaccine which will still give 100% successful primary vaccinations after exposure at 45°C for two years. A description of the method has been passed on to governments and interested laboratories.

Studies of the pertussis (whooping-cough) vaccine have shown that there is a definite correlation between laboratory tests and the protection afforded to children, and an international standard has been established for this vaccine. The Organization has also undertaken or planned studies on the efficacy, potency, safety and biological standardization of other vaccines such as those against rabies, yellow fever, poliomyelitis, influenza and cholera.

During the examination of the report, a number of delegates joined in asking that WHO should endeavour to encourage work on a good mixed ("cocktail") vaccine, in view of the fact that it is difficult to persuade mothers to subject their children to several injections.

The Assembly noted the report in question and recommended that in countries where the use of dried smallpox vaccines would be preferable for climatic or other reasons, advantage should be taken of the availability of a method for producing a consistent and stable vaccine. It also requested the Director-General to continue studies on these and other vaccines, bearing in mind the desirability of conferring effective protection against the greatest possible number of diseases in the smallest possible number of doses.

Attention was drawn to the fact that in the USSR a "polyvaccine" has been produced against typhus, paratyphoid A and B, Sonne dysentery, Flexner dysentery, cholera, and tetanus anatoxin. This has been shown to be stable for a number of years. The component antigens are very easy to assay; they are concentrated in a special preparation of aluminium hydroxide which is deposited in the organism and absorbed slowly. A number of other dried vaccines are also prepared in the USSR, in particular a vaccine against smallpox for use in the hot regions of the country; these vaccines stand up to temperatures of 75°C and are almost 100% successful in primary vaccination of children.

The Assembly's attention was drawn to a statistical survey carried out in the United Kingdom, which demonstrates beyond any doubt that prophylactics containing an alum element, or mixed prophylactics, however bland, carry an increasing risk of poliomyelitis in the presence of the poliovirus.

[4] A detailed account of this report will appear in a later number of the *Chronicle*.

The solution to this problem may lie in the very early immunization of children with a Salk or Salk-type vaccine, after which the injection of the "cocktail" type of prophylactic might be feasible. It was pointed out that this matter calls for very serious consideration and is a cause of concern to public health administrators.

Finally, a number of delegations expressed the hope that WHO would be able to help their respective countries to obtain the vaccines they need, particularly in case of epidemics.

Peaceful uses of atomic energy

The Tenth World Health Assembly approved the steps taken by the Director-General for the implementation of the resolution adopted by the Ninth World Health Assembly in 1956, and requested him to continue WHO's collaboration with the United Nations, with the other interested specialized agencies, and with competent non-governmental organizations in this matter. It noted with satisfaction that the Director-General, as authorized by the Executive Board, has initiated discussions with the Executive Secretary of the Preparatory Commission of the International Atomic Energy Agency, with a view to concluding an agreement between the two organizations on the basis of the agreements entered into between WHO and the specialized agencies.

During the discussion, it was pointed out that the number of experts in this field is extremely limited at the present time and the training of radiation health physicists and of experienced medical personnel in the health aspects of the use of nuclear energy was unanimously considered to take first priority in WHO's programme. To this end, it was stated, the Organization should endeavour to award the maximum possible number of fellowships and to organize training courses.

The urgent necessity for assembling and circulating information on the somatic and genetic effects of cumulative doses of radiation was repeatedly stressed during the debate. In this connexion, the work of a Study Group on the Effect of Radiation on Human Heredity [5]—which met in 1955 in Copenhagen—was deemed of great value.

Several delegates stressed the potential dangers of the uncontrolled use of X-rays and radioactive substances in the diagnosis and treatment of disease. The United Nations Scientific Committee on the Effects of Atomic Radiation has, in fact, addressed a letter to the medical press, calling attention to these dangers.[6]

It was also pointed out that, in spite of the assurances given, the construction of new atomic reactors and the current methods of radioactive waste disposal are in some cases causing public anxiety and it was advocated that WHO should take steps to study all the problems involved, including psychological and social factors, and to disseminate the results to the public in an effort to dispel this concern.

In application of WHO's plan of action, which was established in broad outline at the last Health Assembly, the programme for 1957 includes, *inter alia*, the following activities: the convening of an expert committee on professional and technical education to examine the subject of graduate public health training in atomic energy; the meeting of an expert committee on atomic energy in relation to health, to study the introduction of radiation medicine into the undergraduate medical curriculum; the convening of a study group on the mental health aspects of the peaceful uses of atomic energy; the organization of an international course on health physics at Zurich, in co-operation with the USA Atomic Energy Commission and the Swiss authorities, for the benefit of countries from different regions (a similar course was held late in 1955 in Stockholm). The proposals for the 1958 programme include, *inter alia*, the convening of an expert committee to recom-

[5] A review of the report of this Study Group will appear in the next number of the *Chronicle*.

[6] The text of this letter is to be published in the next number of the *Chronicle*.

mend methods of radiochemical analysis for application in the field of health; the convening of a second study group on the effects of radiation on human heredity; a seminar on radioactive waste disposal; and a further course on radiation protection, to be held in South-East Asia.

OTHER DECISIONS OF THE ASSEMBLY

Executive Board

The Assembly noted the Executive Board's reports on its eighteenth [7] and nineteenth sessions [8] and commended the Board on the work it had performed.

The following States were empowered to designate a member to serve on the Executive Board: Afghanistan, Australia, Egypt, Federal Republic of Germany, Liberia, United States of America.

Resumption of active participation by certain Members

The Assembly expressed the hope that the Member States which have not as yet notified the Director-General of their decision to resume active participation in the work of the Organization will do so in the near future.

Relations with UNICEF

The Assembly reiterated its satisfaction on the close and effective liaison between the two organizations. It noted with satisfaction the decision of the UNICEF Executive Board to lay emphasis on assistance for malaria eradication and to retain up to the end of 1961 the ceiling of $10 000 000 per year set in 1956 for this purpose. It was noted with satisfaction, too, that UNICEF has approved the principle of grants-in-aid to certain schools of medicine and public health to help them to start or to strengthen the teaching of paediatrics and preventive medicine.

[7] *Off. Rec. Wld Hlth Org.*, 73

[8] *Off. Rec. Wld Hlth Org.*, 76 and 77

Protection and integration of indigenous populations

After studying the proposed Convention and Recommendation concerning the Protection and Integration of Indigenous and other Tribal and Semi-Tribal Populations in Independent Countries, which was to be submitted to the fortieth session of the International Labour Conference for final adoption, the Assembly approved the text of those provisions of the proposed Convention and Recommendation relating to health, and agreed that WHO should associate itself with the application of the proposed Convention.

Broad programmes of the United Nations and the specialized agencies in the social and economic fields

The Assembly noted with satisfaction the successful efforts made to ensure collaboration between the United Nations and the specialized agencies, at the secretariat level, in fields of common interest, and expressed the hope that this collaboration would continue to develop.

Renewal of the Director-General's contract

Recognizing that the services performed by Dr Candau have contributed enormously to the successful operation of the World Health Organization, the Assembly expressed the view that it was desirable that Dr Candau should continue as Director-General for a period beyond the date of expiry of his present mandate and, in consequence, decided to renew his contract for a period not exceeding five years from 21 July 1958. Dr Candau was invited to communicate his decision to the President of the Tenth World Health Assembly on or before 1 November 1957.

Celebration of the tenth anniversary of WHO

A special session of the World Health Assembly is to be convened in 1958. It will be known as the " Tenth Anniversary Com-

memorative Session" and will be held immediately before the eleventh regular session of the Assembly.

Place of the Eleventh World Health Assembly

The Tenth World Health Assembly accepted the invitation of the Government of the United States of America to hold the Organization's Tenth Anniversary Session, the Eleventh World Health Assembly and the session of the Executive Board following that Assembly, in the United States.

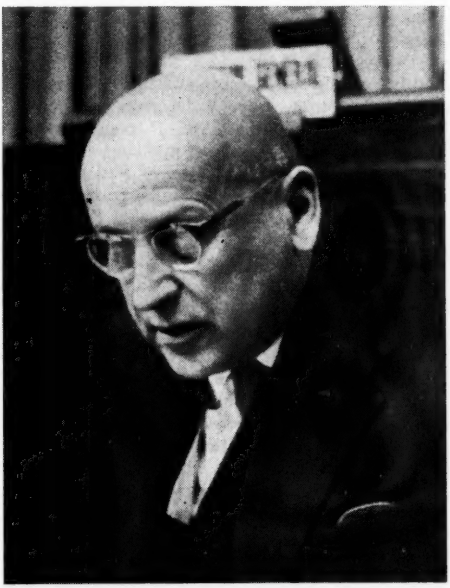
Technical discussions

It was decided to postpone to the Twelfth World Health Assembly the technical discussions on "Health Education of the Public" which were scheduled to take place during the Eleventh World Health Assembly, in order to avoid any prolongation of the total duration of the 1958 special and ordinary sessions.

LÉON BERNARD FOUNDATION PRIZE

The Tenth World Health Assembly awarded the Léon Bernard Foundation Medal and Prize to Professor Marcin Kacprzak, Rector of the Warsaw Academy of Medicine, for his outstanding contribution and practical achievements in the field of organization of public health services and social medicine. The previous recipients of this honour, awarded in recognition of their eminent services in the field of social medicine, have been Dr W. A. Sawyer (United States of America), Dr René Sand (Belgium), Dr C.-E. A. Winslow (United States of America), Dr Johannes Frandsen (Denmark), Professor J. Parisot (France) and Dr A. Stampar (Yugoslavia).

On behalf of the Assembly, the President, Dr. S. Al-Wahbi, presented the Prize to Professor Kacprzak and gave an outline of his career and work.



Professor Marcin Kacprzak delivering his acceptance speech.

... Professor Kacprzak was born in 1888 at Podolszyce, in the province of Warsaw. He did his secondary studies at the college of Plock and then went to Paris to take the course at the Faculty of Medicine. He qualified as a physician at Kharkov in Russia in 1915, his Doctor of Medicine degree was awarded by the Jagellon University of Cracow.

After the First World War Professor Kacprzak did a period as medical sanitarian at Warsaw and in 1922 went to the United States to study public health for two years at the Johns Hopkins University, Baltimore. He obtained his public health and hygiene degree in 1924 and returned to establish himself in Poland.

Professor Kacprzak began his work as chef de service at the State School of Hygiene, which formed part of the Institute of Hygiene, of which he is still a member. In 1946 Professor Kacprzak was appointed regular Professor of Hygiene at Warsaw. He was Dean for five years and was appointed Rector of the Warsaw Academy of Medicine in 1953.

At the School of Hygiene, between the two wars, Professor Kacprzak succeeded in organizing the systematic training of medical hygienists for the public health administration. He taught medical statistics, epidemiology, and selected branches of social medicine. At the same time he lectured in hygiene at the Warsaw Polytechnic School and at the Faculty of Arts of Warsaw University. For some time he was also in charge of statistics and documentation at the Ministry of Social Affairs.

Professor Kacprzak was at the same time carrying on his scientific work on the organization of public health and on sanitary and medico-social problems in various countries; this was based on extensive studies made by him during numerous journeys throughout Europe and the United States, sometimes as the holder of Rockefeller Foundation or League of Nations Health Organisation fellowships, and often on his own account. At the request of the League of Nations Health Organisation he organized a six-week visit to Poland for medical hygienists, and he participated in other exchanges of this kind in other countries—Norway, Denmark, the Netherlands, France and the USSR. In connexion with Professor Kacprzak's activities in other international fields at the time of the League of Nations Health Organisation, it should be noted that he participated in the Commission on Public Health Training, in the meetings of the Directors of Schools of Hygiene, in the Commission on Rural Hygiene, and in the preparation of the first and second conferences of rural hygiene, and in the Commission on Nomenclature of Causes of Death.

After the last war, Professor Kacprzak was an active member of the commission entrusted with the preparation of the Constitution of WHO and in 1946 in New York he was chief delegate of Poland to the first International Health Conference for the establishment of WHO.

These extensive studies enabled Professor Kacprzak to evolve and inculcate a concept of the organization of public-health administration, based on the close relationship between sickness and social conditions, which would provide medical assistance to each individual, regardless of his financial resources.

The work of Professor Kacprzak testifies to this thorough knowledge of the subject and shows him to be a convinced and enthusiastic worker in the social field.

The second problem which Professor Kacprzak studied was that of the low health level in rural areas, related to the low economic, cultural and social levels of the rural population. Many publications on the subject were addressed to physicians, social workers and to rural populations in general. Particular mention should be made of a monograph entitled "The Plock Rural District". Professor Kacprzak did not confine himself to studies; he also conducted propaganda on this problem, demanding an improvement in hygienic and sanitary conditions in rural areas and an extension of medical services.

For thirty years Professor Kacprzak has been considered in Poland as the symbol of social medicine —medicine which relates sickness to living and working conditions and demands not only treatment but also improvement of the patient's material and social conditions. This concept of social medicine is evident not only in Professor Kacprzak's research work but also in his teaching. His students have to take a new line and realize that it is their duty to study social factors, to consider the origin of sickness, its repercussions and the social means which must be employed to combat it. The present cadres of the health services in Poland may claim to be pupils of Professor Kacprzak—and this does not refer only to the highly-placed public-health administrators. Professor Kacprzak has known how to communicate to his students his own untiring enthusiasm for the work and this enthusiasm enables them, whatever the functions they fulfil, to obtain a greater output from the means of action at their disposal.

Under this same banner Professor Kacprzak has continued his activities as President of the Social Medicine Association, member of the Executive Committee of the Hygiene Society and editor of several journals, including that entitled "Public Health". Public health teacher of hygiene and popular writer on these subjects, he has taken every possible opportunity of discussing social health problems with the authorities and social workers at all levels.

During the years since the last war Professor Kacprzak has concerned himself and still concerns himself very deeply with student problems and endeavours to familiarize students with the problems of social medicine. He has a great love for young people, and is not only an exceptional teacher but also a man who seeks to ensure that all his students, all future physicians, shall have a modern training, with a sound knowledge of the subjects taught, a true conception of their professional and social duty.

In thanking the Assembly for the high honour conferred upon him, Professor Kacprzak expressed his conviction that once medicine is at the service of all a step will have been taken towards the greater well-being of mankind in the future.

... Medicine, during the past few decades, has achieved great successes, and in some fields the results obtained go beyond the boldest dreams—not only the dreams of our fathers, but also those that the physicians of my generation cherished in the days of their youth. One might even say that the trends of modern medicine have surpassed our boldest dreams both in the field of science and in medical arts.

When, a hundred years ago, Virchow and his followers began to concern themselves with social medicine, their statements had something apostolic about them. Later, one even began to believe that social medicine would be able to do away with the diseases arising from the vices of civilization and social injustice. How far we are today from that Utopian, but historically necessary, concept. Nowadays we regard social medicine as a science whose practical application extends not only to the so-called social diseases, but to all the other diseases as well, which is not confined to a single country but interests the whole world. It is in fact difficult to find today a physician who, even if he theoretically rejects the concept of preventive medicine, is content to limit his recommendations as regards his patient merely to prescribing a drug or an operation. Nowadays prescriptions which are hygienic or social in nature accompany all therapy and make it more effective. This idea is becoming more and more familiar to every physician.

Formerly men were treated when need arose, when disability, pain or death threatened. Today, it is for us to choose the most suitable moment for medical intervention. Tomorrow we will search in the body for the pre-dispositions and, in the mental, social and physical environment for the harmful factors, that determine the appearance and the development of disease. The whole of our medicine will be gradually transformed and when it is imbued with the idea of prevention, closely linked to the improvement of social conditions, the physician will become the true "medicus" and no longer "mendicus". This result will be due not only to science and technical achievement, but also to the fact that the physician will have become aware of the importance of the social factor which is inherent in medicine.

Our forefathers believed in a golden age in the past, and we find this belief in the legends of all peoples. As proof of this, I will merely cite the well-known verses of Ovid: "Aurea prima sata est aetas quae vindice nullo, Sponte sua, sine lege, fidem rectumque colebat ..." * We find relaxation in reading these legends of the golden age, but we are not taken in by the mirage of that legendary past, we think more of the future. True, we do not expect the golden age in the sense formerly given to it, but we look to the future and are convinced that our children and grandchildren will have a better life than ours. I shall not assert that in the future the conditions in which we live will be paradise, nor that the lion will lie down with the antelope and the wolf with the lamb. But what is certain is that the European will feel much closer to the inhabitant of Africa and the American less distant than at present from the inhabitant of Asia. A better understanding will develop between men, in which medicine will play its part.

Descartes has said: "If any means can be found that will generally make men wiser and cleverer than they have been hitherto, I believe that it is to be looked for in medicine." For over three hundred years medicine has not been able to boast of any such success but the future is full of hope. Let us hear how Descartes goes on: "It is true that the medicine now in use contains little that is of outstanding utility; but, while I have no intention of decrying it, I feel sure there is no-one, even among those who make it their profession, who would not admit that what is known is next to nothing in comparison with what remains to be known, and that a large number of diseases both of body and mind, and perhaps even the infirmity of old age, could be avoided, if one had sufficient knowledge of their causes and of the remedies with which nature has provided us".

Our faith in medicine cannot be weaker than in the seventeenth century and recent discoveries enable us to prove these assertions scientifically. Today we have a profound belief in social, preventive and scientific medicine. The ideas contained in these general definitions relate to a medicine that not only reaches the acme of the art, but is accessible to all, finds appropriate application in each case, and takes into account the patient's past and future, the conditions of his life, work and environment.

Medicine has great tasks before it, but if its roots and its social possibilities are not taken into account, it will be impossible to make man either richer, better or happier. This is a fine and captivating vision and if I had to begin my life over again, I would devote it once again to social medicine...

* In the beginning was the golden age; then, unconstrained by law or by the hand of justice, of their own free will men lived in honour and in righteousness.

DARLING FOUNDATION PRIZE

The Darling Foundation Prize is awarded periodically to honour not only eminent malariologists whose work is of particular distinction but also the memory of Dr Samuel Taylor Darling, a man renowned for his constant research activities, focused on the control of disease and especially the control of malaria. The previous recipients of this Prize have been Colonel S. P. James (1932), Professor N. H. Swellengrebel (1937), Professor H. E. Shortt and Dr P. C. C. Garnham (1951), and Dr G. Coatney and Professor G. MacDonald (1954).

This year the Darling Foundation Committee decided to confer the honour on Dr P. F. Russell (United States of America). At a plenary meeting called specially for the purpose, the President of the Tenth Health Assembly, Dr S. Al-Wahbi, handed over the Medal and Prize to Dr Russell. In doing so, he remarked on the doubly solemn significance of the ceremony, for the day also marked the centenary of the birth of Sir Ronald Ross.

... Today is a particularly appropriate day for the presentation of an award connected with work in the field of malaria, for one hundred years ago today was born the man who later became known to us as Sir Ronald Ross, who ... first saw and recognized, in August 1897, zygotes in the stomach walls of a mosquito, and who thereafter first demonstrated the cycle of avian malaria, from which was deduced a similar cycle in human malaria, a deduction very soon proved by the Italian workers Grassi, Bastianelli and Bignami.

On this most fitting occasion the award is being made to one who is renowned for his outstanding achievements in the control of malaria, and, indeed, for his contributions to the whole subject of malariology and who, it is particularly interesting to note, drew his inspiration directly from Dr S. T. Darling, working as his assistant at the Leesburg Field Laboratory, Georgia, shortly after joining the Rockefeller Foundation in 1923.

Dr Paul F. Russell, born in 1894, is an American citizen. He holds the A.B. degree of Boston University, the M.D. degree of Cornell University, and the M.P.H. of Harvard University. He joined the Rockefeller Foundation in 1923, and has been associated with the health work of that foundation ever since, particularly in the field of malaria. Most of his working life has been spent outside his native land, for he was assigned to Malaya from 1925 to 1928, to the Philippines from 1929 to 1934, to India from 1934 to 1942, to Venezuela from 1946 to 1947, to Rome from 1950 to 1952, and to Paris from 1952 to 1953, while from 1942 to 1946 he served with the United States Army overseas, and in 1954 and 1955 he was loaned to the World Health Organization, acting as special consultant here in Geneva and visiting a number of countries in Asia and the Middle East.

Dr Russell has made outstanding contributions to the epidemiology and control of malaria. His brilliant studies in connexion with malaria transmitted by *Anopheles culicifacies* in South India constituted one of the earliest demonstrations of the possibility of controlling malaria through insecticidal attack on the adult vector, paving the way to the similar use of residual insecticides—a technique which, as we all know, is the mainstay of modern malaria eradication programmes.

Dr Russell is the author or co-author of a number of books on malaria and of a long list of scientific papers. The title of his latest book—*Man's Mastery of Malaria*—excellently epitomizes the philosophy of which Dr Russell has been so strong a protagonist, a philosophy which guides also this Organization in its work of mastering the problem of malaria in the world.

Dr Russell has been closely associated with the World Health Organization since its inception and, as a member of the Expert Advisory Panel on Malaria, has served on the Expert Committee on Malaria on five occasions. In addition, on several occasions the Organization has greatly benefited from the advice of Dr Russell when he agreed to serve as a consultant to the Organization.

Dr Russell, in his speech of acknowledgement, recalled Dr Darling's brilliant career

and drew a parallel between his work as a pioneer and the international activities the World Health Organization is now carrying on in research and co-ordination.

Standing here before this notable Assembly on this occasion, I find my emotions a mixture of pride, humility and reminiscence. I am proud to have been

Dr P. F. Russell (left) receiving the award from the President of the Tenth Health Assembly

recommended for this honour by an expert committee of outstanding malariologists, and I am very proud indeed to receive it . . . in the presence of this Assembly. No other organization in all history has had a greater world-wide influence towards the eradication of a major disease than has the World Health Organization in respect of malaria during the past few years. This Organization has been the activating catalyst and motivating mainspring, the international demonstrator and co-ordinator, in the development of a global assault on malaria. I have no doubt that WHO will continue to apply increasing power to the attack until this plague has been vanquished.

I also feel humble at this time, first because of my debt to a great many collaborators over the years and in many countries; and secondly, because my own acquaintance with current malariology makes clear to me that this award might so properly have gone to any one of several colleagues who have contributed notably to the subject in recent years.

But even stronger than these feelings of pride and of humility, there is this morning a flood of reminiscence stemming back a third of a century to the time when I had intimate personal and professional association with Samuel Taylor Darling, whom we honour today. In October 1923 I was sent to Leesburg, Georgia, for a routine two-week training course at the Rockefeller Foundation's Malaria Field Station, of which Darling was the director. But such was Darling's magnetism, and so thoroughly and quickly did he stir in me a desire to specialize in malariology, that I stayed at his side for fifteen months as a student-assistant. Darling's influence was irresistible and to this very day malaria has attracted me more strongly than any other aspect of medicine. Of Darling, uniquely among all of my teachers, I can say most sincerely in the words of the oath of Hippocrates, "I shall look upon him who shall have taught me this art even as on mine own parents".

Darling had a robust personality, a pertinacious curiosity, abounding energy, and a wealth of wisdom. He had a notable record in the Panama Canal Zone as pathologist under General Gorgas. There, as Darling several times related to me, he met Ronald Ross, the hundredth anniversary of whose birth we note today. These two Titans had great respect for each other. After Panama, Darling joined the staff of the Rockefeller Foundation, and brilliantly carried out studies in Malaya, Java, Fiji, Brazil and the United States. His tragic death occurred in the hills above Beirut on 20 May, 1925, while he was on a tour for the Malaria Commission of the Health Organisation of the League of Nations.

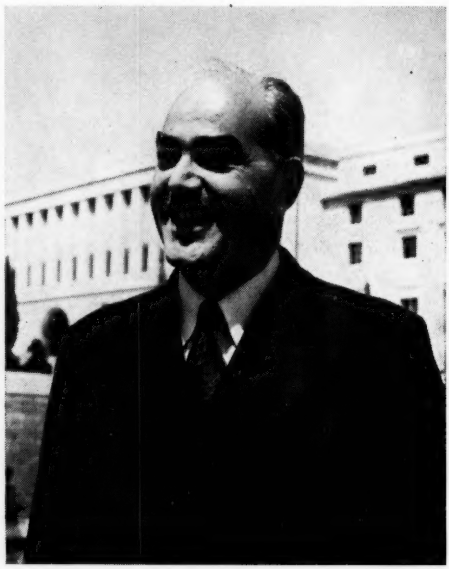
The great lesson consistently expounded by Darling was that in public health activities, concomitant field and laboratory research is essential to sound practice. Darling would have given hearty

endorsement to the emphasis placed on this subject by Professor Parisot . . . and to the words of your very practical and distinguished Director-General in his review of the work of WHO in 1956, where Dr Candau states that research is " the real backbone of the various activities through which the Organization is striving to promote world health ". As regards malaria, I believe that without concomitant fundamental investigations world-wide eradication would not be possible. It is indeed fortunate that this principle, so tenaciously held by Darling, has been accepted, and that WHO is today stimulating, co-ordinating and assisting malaria studies throughout the world.

Finally . . ., I have great pleasure in accepting this Darling Foundation Medal and Prize that commemorate a famous research malariologist, a superb teacher and a close friend.

DR SAHIB HASSAN AL-WAHBI

President of the Tenth World Health Assembly



Dr Sahib Hassan Al-Wahbi, former Minister of Health of Iraq, was born at Baghdad in 1905; he studied medicine at the American University of Beirut. After completing various periods of study in hospitals of England and Scotland, Dr Al-Wahbi entered the Iraqi Health Service in 1930. He was appointed associate professor at the Baghdad Royal College of Medicine, and became Assistant Dean of that institution in 1937. Since 1941, he has been directing the Karkh Hospital in Baghdad.

Dr Al-Wahbi, who already represented his country at the Office International d'Hygiène Publique, has been for some years the head of the Iraqi delegation to the World Health Assembly. In 1956, he was Chairman of the WHO Executive Board.

THE ROLE OF THE HOSPITAL IN THE PUBLIC HEALTH PROGRAMME

Report of the Technical Discussions at the Tenth World Health Assembly

The subject chosen for the technical discussions at the Tenth World Health Assembly was " The Role of the Hospital in the Public Health Programme ". Some 200 participants attended these discussions which were held under the general chairmanship of Dr A. J. Metcalfe, Director-General of Health of Australia. The participants met in an opening

and a final plenary session and, for convenience, in nine discussion groups with the following chairmen and rapporteurs:

Group 1: Dr M. Kacprzak, Rector of the Academy of Medicine, Warsaw, Poland, *Chairman*; Dr B. M. Clark, Deputy Chief Health Officer, Union of South Africa, *Rapporteur*.

Group 2: Dr H. K. Cowan, Chief Medical Officer, Department of Health for Scotland, *Chairman*; Dr M. P. V. Tottie, Adviser to the Royal Medical Board of Sweden, *Rapporteur*.

Group 3: Dr M. O. Shoib, Director, Ministry of Public Health, Egypt, *Chairman*; Dr C. M. Norman-Williams, Assistant Director of Medical Services, Western Region, Nigeria, *Rapporteur*.

Group 4: Dr E. Akwei, Chief Medical Officer, Ghana, *Chairman*; Dr S. A. Chowdhury, Associate Professor of Medicine, Dacca Medical College, Pakistan, *Rapporteur*.

Group 5: Professor P. Muntendam, Director General of Public Health, Netherlands, *Chairman*; Dr C. H. Yen, Commissioner, Provincial Health Administration, Taiwan Provincial Government, *Rapporteur*.

Group 6: Dr A. Sauter, Director, Federal Public Health Service, Switzerland, *Chairman*; Dr P. Bernard, Chief, Technical Bureau, Health Service Directorate, Ministry for Overseas Territories, France, *Rapporteur*.

Group 7: Dr H. Hashimoto, President, Japan Hospital Association, *Chairman*; Dr R. K. C. Lee, President, Board of Health, Honolulu, Hawaii, *Rapporteur*.

Group 8: Dr E. L. Stebbins, Director, School of Hygiene and Public Health, Johns Hopkins University, Baltimore, Md., USA, *Chairman*; Dr S. Syman, Deputy Director-General, Ministry of Health, Israel, *Rapporteur*.

Group 9: Dr C. Diaz-Coller, Technical Adviser, Ministry of Health and Welfare, Mexico, *Chairman*; Dr A. C. Regala, Special Assistant, Department of Health, Philippines, *Rapporteur*.

At the opening plenary session, the General Chairman, Dr A. J. Metcalfe, gave an address on the main subject from the point of view of the public health administrator. Drawing a distinction between the hospitals of the large cities and the rural areas, the Chairman gave a series of illustrations of the type of services in his own country, Australia. He referred especially to the rural services, which in many instances have to be carried to remote areas. These services, he said, are usually provided by the Government or by religious and other organizations which are frequently subsidized by the Government.

Following up this description, the Chairman made special reference to the Northern Territory medical service of Australia, which is provided as a complete health service by the Commonwealth Department of Health. The Northern Territory, which covers an area of over half a million square miles, is in great part waterless and arid. Consequently the population is widely dispersed, some of the settlements being separated by hundreds of miles. An aerial medical service to the residents of these remote areas has been introduced, which is operated from two wireless bases one thousand miles apart, and all the settlers are in touch with them by special radio equipment. Medical officers make regular visits to centres of inland population and give treatment, and advise on all matters that have a bearing on health. The Commonwealth Department of Health covers, in this area, the whole field of hospital, medical and public health care.

Dr Metcalfe also dealt with special public health problems, including tuberculosis, research, out-patient services and the relation of the general practitioner to the hospital. He stressed the point that the hospital was a very important unit in the team of numerous other public health activities.

This was followed by presentation of a paper by Dr S. Al-Wahbi, President of the Tenth World Health Assembly, dealing with the subject of the technical discussions from the point of view of a hospital administrator. Dr Al-Wahbi pointed out that the main objectives of the hospital services were (1) efficient diagnosis and treatment of patients with the best modern facilities; (2) research in every direction of hospital work; (3) the training of personnel at all levels from the highest grade of specialist to the auxiliary workers; and (4) health education and health protection, carrying the work of health promotion from the hospital

to the community right into the homes of the people. This last item, as Dr Al-Wahbi said, is a new orientation of the hospital services and its organization is one of the main subjects for the technical discussions.

The reports of the nine groups were studied by three special rapporteurs—Dr R. F. Bridgman, Deputy Director of Health of the Department of the Seine, France; Dr E. L. Crosby, Director, American Hospital Association; and Dr A. A. Zaki, Director of Medical Services, Sudan. Their conclusions were presented to the final plenary meeting of the technical discussions, together with the reports of the groups. On these documents and on the general discussion that they gave rise to, the following final report was prepared. In keeping with the established procedure, this report was noted but not formally adopted by the Tenth World Health Assembly, since the technical discussions do not constitute part of the proceedings of the Health Assembly proper.

THE HOSPITAL SERVICES

THE HOSPITAL AND ITS FUNCTIONS

Introductory

This subject considered as a title for the technical discussions at the Tenth World Health Assembly presents unusual difficulties. In the first place a definition or at least a comprehensive description of the term " hospital " has to be examined in detail. Secondly, the range of size and function of hospitals is remarkably wide, because one must logically include at one end of the scale the great, highly specialized, teaching hospital, generally situated in a large city, and at the other end the little rural unit of 25 beds or less. Between these are many intermediate grades of hospital; all are vital to the service. It is not the buildings that are contemplated in discussion but rather the functions that the hospitals undertake according to the needs of the communities which they serve. In the third place the discussion groups had to establish a just balance between the curative and the preventive functions of all types of hospital and to define in some measure their application and their scope.

So far as definition is concerned, groups were all but unanimous in accepting the suggestion made in the first report of the Expert Committee on Organization of Medical Care.[1]

> " The hospital is an integral part of a social and medical organization, the function of which is to provide for the population complete health care, both curative and preventive, and whose out-patient services reach out to the family in its home environment; the hospital is also a centre for the training of health workers and for bio-social research."

No exact definition of general practice or specialist functions was proposed, but the trend of group discussions made it clear that the general practitioner is regarded as a doctor in direct touch with his patients in or near their homes, who accepts continuing responsibility for providing or arranging for their general medical care. There was also wide agreement that in modern medicine the integration of preventive and curative functions would be most effective and most readily undertaken in the surroundings of the patient's home and family. One further feature of general practice which retains its importance everywhere is direct access of patient to doctor. In accordance with his professional training and ethics, the physician is alone responsible for the treatment and advice given to his patients, and, except in emergency, he is the agent through whom specialist advice and, if necessary, admission to hospital are sought.

[1] *Wld Hlth Org. techn. Rep. Ser.*, 1957, **122**, 4

In some countries, especially those with a long hospital tradition, the smaller hospitals, notably those in rural areas, are open to general practitioners. But as a rule the larger teaching hospitals have " closed staffs ". It is in any case desirable that the general practitioner should have an opportunity to continue seeing his patient after admission to hospital, and have the benefit of consulting with the hospital staff. The specialist staff under whom the immediate care of the patient is placed have a responsibility for informing the general practitioner of the progress of his patients in hospital, and of any special treatment or follow-up which ought to be undertaken after discharge.

The traditional and essential functions of the hospital are the care of the sick, the relief of suffering and, where possible, the restoration of the patients to health. We shall consider in a later section of this report the new approach of hospitals to the prevention of sickness and the promotion of health.

Types of hospital

In the general pattern of hospitals the principal types which have been organized are, first, large hospitals rendering all the higher grades of special services, e.g., brain surgery, radiotherapy, etc. Such services are in many instances extremely costly and could not be re-duplicated in general hospitals throughout the region. These hospitals are commonly teaching hospitals for medical students, nurses and auxiliary workers and they are generally situated in large cities. There are in addition regional or district hospitals where specialized services of a less complex nature are available. These hospitals are usually situated in towns of moderate size in such a position that they can serve a region or a wide area. Patients are admitted on the recommendation of a general practitioner through the outpatient department or directly in emergency. In the third place there is a range of smaller hospitals which are essentially general in character. A number of the larger units of this group are served by general physicians who have specialized in some subject, such as midwifery, or disorders of the ear, nose and throat. The smaller units, usually of 50 beds or less, are often served entirely by general practitioners, who may call in specialists for consultation as required. And, lastly, there is in the more remote areas and especially in the less developed countries a kind of home hospital, either under the direct charge of one or more local general practitioners or served directly by a team of medical, nursing and auxiliary workers from a neighbouring centre.

Generally speaking, the system of organization is that the patient is admitted routinely to one of the smaller units, and if it is found that more highly specialized investigation or treatment is necessary he is transferred to one of the larger regional or district hospitals where such services are available. It may be necessary for him to be transferred without delay to one of the great teaching hospitals. In many cases the flow of patients from one type of hospital to another is in both directions according to the condition of the patient. For example, a patient who has been treated in a special hospital and is now convalescent may be transferred to a smaller unit near his home or, if specialized services have been completed, he may be referred to a more general hospital. In areas where the system of regionalized development has been applied successfully the result is a network of hospitals of various sizes established throughout the country. Small rural hospitals, perhaps of 15-50 beds each, serve a rural population of five to ten thousand people. They usually have general medical, surgical and obstetric services with an outpatient department. At the next level is an area hospital of 70-150 beds depending on the population served. These hospitals have special departments giving medical, surgical, gynaecological, obstetric, ophthalmic, urological and paediatric services. They render valuable assistance to the small rural hospitals within their area but they do not exercise administrative supervision. There is no hierarchy in the various types of hospital. At the third level is the base hospital of

perhaps 600 beds or more where every kind of specialized care is available. These hospitals offer consultation and assistance to the intermediate grade of hospital and receive from them patients requiring highly specialized diagnostic and therapeutic care. In the more remote areas and especially in the under-developed countries, there are smaller clinics, some stationary and some mobile, dealing with the routine medical care for the area they serve.

Hospitals of these types are to be found whether or not there is a regional system. We shall later discuss the special value of regionalization. Where the various hospitals, whether governmental or voluntary, are scattered throughout an area there is usually a certain lack of co-ordination and equipment and services may in this way be unnecessarily duplicated.

Specialization

The remarkable advances in scientific medicine during the past generation have led to a great increase in specialized services and equipment. The cost of such work makes it no longer possible to maintain the highest degree of progress without a properly rationalized system, in which each hospital of a group renders the service which it is best fitted to undertake. As we have seen, the differences between hospitals today are now so great that we have to draw a clear distinction between the various types, and to study integration at different levels. Not only this, but recently the need has arisen in each country for a special centre for scientific medicine, combining in one unit the skills of pure science and their application by means of clinical medicine to the needs of patients suffering from special and complicated diseases, such as the cancer group. This " clinical research centre " must be permitted to select its own patients, in the interests of its research programme. The problems might be nutritional, or concerned with certain specific diseases, but in all cases it would be necessary to secure accurate recording of experiment and result, and careful, scientifically controlled epidemiological and statistical studies.

Specialized equipment may now involve huge expenditures, and we are bound to consider the variations between one area and another. Probably the best method of meeting the difficulties of the less developed areas is to create, through an international organization, a number of special regional centres, in which costly and delicate equipment could be housed. In some instances it might be necessary to transfer a patient over long distances to secure treatment of this kind, while in others the use of mobile equipment might be feasible.

General medical care

In spite of the wide range of specialties, the great bulk of hospital service in most countries will continue to be devoted to general medical care. This term includes the recognized specialties of the general hospital, such as surgery and obstetrics, and at the regional or provincial level the hospital should be a centre for scientific medicine. It should not be assumed that only the highly specialized hospitals are capable of undertaking scientific research. Indeed, some of the best scientific work in the annals of medicine has been carried out in small and often remote units, and an increasing amount of field investigation is being done through co-operation between general practitioners. One of the principal functions of the larger research centres is to inspire, to assist in planning, and to co-ordinate.

The contribution of the smaller hospitals to medical care has both a medical and a social significance. It is in the units of fifty beds or less that the physician admits patients on social as well as on strictly medical grounds, often on account of unsuitable home conditions. Such cases readily provide opportunities for close collaboration between the general practitioner and the local medical officer of health, especially in the solution of difficulties which are social rather than medical.

The smaller units of hospital service

In remote and under-developed areas the hospital may be a relatively inaccessible centre; and for this reason it may have to deploy its medical, nursing, and auxiliary team in periodic visits to villages and small communities, where a hospital could not be supported on economic grounds. In countries with poor means of transport the creation of rural health centres is of outstanding value. In some areas such units are of the nature of mobile hospitals or surgical camps, provided with substantial equipment for operative work. The team visits an area, undertakes the actual surgical and other special functions, and then leaves a team of competent workers to look after the patients until they are ready for discharge or require only minor dressings. It is, of course, essential that units or camps of this kind should be under the skilled supervision of a " base " hospital and not working in isolation. Some patients will require to be transferred to the hospital centre for specialized care, and that is one of the virtues of the system. In a number of countries today there are areas in which young people will not seek work, because of an almost complete want of medical services; and it is here especially that the establishment of outlying health centres is of great value.

HEALTH ACTIVITIES WITHIN THE HOSPITAL

Introductory

Up to this point we have been considering the hospital within its traditional setting, as an institution for the medical care of the sick. It is now necessary to enlarge that conception in order to be in line with present-day needs. It is customary to speak about the integration of preventive and curative medicine in the hospital, but the technical discussions show clearly enough that the idea has not reached practical realization, except in the more remote and rural areas, in which health measures and treatment can be combined without difficulty or any break with tradition. As regards hospitals we should be cautious about expressing views on the limits set between prevention and cure. It could be said, for example, that a surgeon who removes a tumour is doing preventive work; and in one sense it is true—he is probably preventing a continued growth or a recurrence. This might best be described, however, as " clinical prevention ", but it is, properly speaking, " cure ". In medicine there are, of course, many borderline cases between the realms of prevention and cure, and it would be unwise to be dogmatic about it. When we speak of preventive medicine as such, we usually have in our minds the idea of the prevention of sickness and the promotion of health, rather than the preventive aspects of a particular form of treatment. The boundaries of medical science are ever changing, and what is curative today may represent an important feature of prevention tomorrow.

The aim of restoration

There are important features of preventive work in the activities of rehabilitation in which both hospitals and industrial firms play an increasing part. This is especially significant when we realize that it is the patient as a person, and not the disabled part, which has to be considered. The aim of restoration to full functional activity is an important feature of a health service, and much of this work has to be done in the course of hospital treatment. The same considerations apply to the care of the mentally sick, especially in the early stages of disorder. The psychiatrist in the out-patient clinic, with the assistance of the psychiatric social worker in the home, makes a direct and valuable contribution to prevention; and all these are health activities in the fullest sense of the term.

Services to patients

Many hospitals enjoy high prestige in the community because they set out to render kindly and thoughtful services to their patients. Others, both large and small, have not yet established this kind of human relationship, but it is nevertheless part of health care. In the more simple forms of service one includes the provision of books, a good postal system, humane arrangements for visits by relatives and friends, and the provision of accommodation for private interviews and for the relatives of patients who are dangerously ill. The service of appetizing food in an attractive way is no small part of the patient's comfort, and may contribute considerably to his recovery.

More specifically, the hospital often renders services which are in a real sense concerned with the promotion of health. Obstetric consultations, for example, in the course of pregnancy, do a great deal to give the expectant mother confidence and at the same time present useful signals to the physician. The provision of general physical examinations at the time when a patient attends hospital for a particular condition may give great help towards ascertaining the origin and the prognosis of a disease. Similarly, in the special study of conditions of the heart and the lungs, as well as in general medicine, it is useful to carry out systematic chest examinations and to keep track of any changes in the patient's condition, by means of radiological examinations. In some countries the frequency of parasitic diseases and of special ailments associated with country or climate would amply justify systematic examination for the detection of malarial parasites and various other parasitic diseases which are common in such areas. Public education with regard to trachoma is another case in point.

In the hospital emergency service there are often opportunities for the exercise of preventive activities: in some areas inoculation is practised and supplements to some extent the work of the local health department, but on the whole it seems better that functions of this kind should normally be performed by the patient's own doctor. Like the family doctor, the staff of the out-patient department also have to keep a sharp look-out for communicable diseases, especially in paediatric work. During the past few years an increasing number of hospital out-patients have had the benefit of the services of psychiatrists and psychologists in the preliminary assessment of the part taken by nervous and mental disorders in the etiology of the conditions that bring them for consultation. Again, the evaluation of the services rendered to patients by medical social workers demonstrates beyond doubt that they stand in high repute. In the first place, the medical social worker is the closest link between the patient and the outside world, including both the home and the job. Secondly, she is the adviser on all problems connected with such matters as insurance contributions, pensions, and other outside affairs which often worry a sick person far beyond the actual difficulties of the situation. And thirdly, the medical social worker is usually the most important contact between the hospital service within the institution and any after-care or rehabilitation measures which may be provided following discharge.

Records and research

Medical research is one of the aspects of the public health programme which receives most benefit from careful, specialized organization. It is important that, so far as possible, overlapping of projects should be avoided, and, above all, useless rivalry between one institution and another. Efforts must be made also, through some central scientific body such as a medical research board, to ensure that financial aid is reserved for those workers who demonstrate their capacity for the particular study which they wish to undertake. The theme of research should permeate the whole hospital organization, because it is primarily by this means that advances are made in medical care.

In the hospital services research may be conveniently divided into the following categories:

(*a*) *Pure scientific research* not directly related to the care of the sick. This includes physiological studies of function to elucidate such problems as blood flow, the effects of ingestion of certain fats on the cardiovascular system, and so on.

(*b*) *Specific pathological, bacteriological, and other research*, making use of clinical material, e.g., biopsy, pathological specimens from autopsy, and the growth of cultures.

(*c*) *Statistical and epidemiological research* through the medium of hospital records. The use of documents from hospital archives and laboratories is essential for the maintenance of a sound public health programme. For example, the control of social diseases must be organized on the basis of accurate knowledge of the number and condition of patients; and good prophylactic measures can only be founded on well tested therapeutic discoveries and the latest developments in diagnostic media.

(*d*) *Field research* through the collaboration of the health officer and the general practitioner. The practitioner has the advantage of continuity of observation, and of knowing intimately the family and neighbourhood background of his patients. The health officer on his part has a unique understanding of the community problems of his area, including the broader aspects of epidemiology.

(*e*) *Social research* is finding a new place in public health. Medicine today has become a social as well as a physical science. In this kind of research the centre of interest is the patient, and the social scientist is concerned with his reactions to the stress of illness and the effects on him and his family of the social difficulties created by admission to hospital. In the hospital itself socio-medical inquiries are of value in the study of psychosomatic illness and in the investigation of social and economic factors in sickness.

(*f*) *Administrative research.* In the field of hospital administration there is considerable scope for skilled investigation. The hospital of today has to keep its house in order, and for this purpose it has to make studies of its own financial and economic procedures. Further, the hospital service has to satisfy the public that its professional services are maintained at a high level, considering the nature of the area it covers and the resources available. Standards of medical care are in need of regular review by an independent authority, governmental or otherwise.

HEALTH CARE OUTSIDE THE HOSPITAL

The out-patient department

One of the fundamental principles of modern hospital care has been due to a change of attitude towards the external functions of the hospital. The participants of the nine groups regarded the role of the out-patient department as an essential part of the pattern of public health services. These extra-mural activities, they felt, were a practical demonstration of the truth that the modern hospital looks out beyond its own walls to serve the community. The hospital should not live in isolation but its functions should permeate the community through the services of the out-patient department. In this unit the general practitioner attends his patients on equal terms with the other members of the staff, the specialist and the health worker, and he can seek help both in the out-patient department and, if necessary, in the homes of his patients. Such assistance may be obtained from the preventive and social services as well as from the staff and equipment of the hospital. In this way the general practitioner acts as a channel of communication in both directions, between the hospital on the one hand and home care on the other, so that the patient can be provided for according to his needs.

The well conceived out-patient department is in no sense antagonistic to the general practitioner and the home care he wishes to provide. On the contrary, by its valuable diagnostic equipment, such as X-ray and laboratory services, the out-patient department can be of direct assistance to the general physician without bringing the patient into hospital. In addition, valuable services can be given in relation to physiotherapy, and by out-patient clinics devoted to minor psychiatric disorders. It has been suggested that an out-patient department might restrict the general practitioner's functions, but where there is good collaboration between the two the whole facilities of the department, including its laboratory services, increase both the scope and the prestige of the general practitioner's work.

The more strictly preventive functions of a hospital out-patient department were next discussed. It was emphasized that the service should reach the homes of the patients even in the more remote and inaccessible areas. This is especially true of prenatal and infant care in which a team of experienced workers, including doctor, nurse and assistant, can undertake services in villages and rural areas in co-operation with the doctor on the spot. Often enough, the out-patient department or one of its health clinics is in fact the nearest centre to the homes of the patients and it is from there that the doctor himself carries out his functions.

The value of an efficient record system has already been mentioned because it is through this means that one can get a true picture of morbidity and the epidemiology of sickness in a given area. The out-patient department, when it is fully developed, is a most valuable record centre and should be the basis for essential field research in co-operation with the general practitioner.

It has been suggested that in order to economize in the number of hospital beds, the promotion of home nursing facilities, home helps and similar services might be organized or integrated with the out-patient department. Much depends on the kind of area and the accessibility of services. Where transport conditions are difficult it is no doubt wise to arrange for the hospital to undertake all these services itself on the team basis; but in the larger towns and where transport is easy and cheap, it is probably better to organize home nursing care, home helps, etc., through the public health department in close co-operation with the hospital.

Another service which has been specially mentioned is the nursing care of the new-born and special hospital accommodation for the admission of children who fail to make satisfactory progress. The hospital can also serve as an admission and treatment centre for premature babies, for the facilities which it can offer are always greater and more up to date than it is possible to provide in the home. Reference has been made to mental health and a further consideration of the out-patient work is the employment of psychiatric social workers in the field, to enable mental hospital patients to be discharged to home supervision at an early date.

As we have seen, it is in the smaller out-patient departments that it is easy and helpful to secure co-operation or even integration between the local health department, the hospital and general practice. It has sometimes been felt that it would be a mistake to place the hospital in the centre of the picture when medical care programmes are being considered. This is no doubt true of the in-patient accommodation of those who are sick. In the more modern concept of out-patient care, however, there is a good deal to be said for a reorientation of services to transform the out-patient department into a polyclinic. In other words in hospital organization there tends to be a shift of emphasis from hospital beds to out-patient departments. The latter serve as a screening apparatus for all patients admitted and they are equally valuable in the study of patients discharged from bed care, to advise the practitioner, for example, whether further attendance is necessary or on the kind of home treatment which might be continued in the interests of the patient.

In one of the group discussions further functions for the out-patient department were suggested as follows:

(*a*) In rural areas especially, out-patient services have an important relation to the control of communicable diseases and maternity and child care. They can also contribute in the field of rehabilitation. While some countries have developed special rehabilitation centres, it was felt that the general hospital, and especially the out-patient department, should also assume responsibilities for helping patients adjust to their disabilities, by maintaining contacts with the home. This function was mentioned especially with regard to the chronically ill and the aged.

(*b*) The group believed that out-patient departments can render an important service by providing periodic examinations for chronic diseases and the early detection of tuberculosis, cancer, cardiovascular diseases, etc. These tasks may not need to be assumed by hospitals if they have been developed by other community health services.

The rural health unit

The concept of a rural health unit was fully discussed by an Expert Committee in a report published in June 1954.[2] In that Committee, it was agreed that the rural health unit should be regarded as the nucleus of the rural health service in any area. It was defined particularly as " an organization providing or making accessible, under the direct supervision of at least one physician, the basic health services for a community ". This type of unit is an essential feature of all medical care services where the smallest type of hospital is too remote or inaccessible for daily services to a given community. Its aim is to extend health and medical care services in such a way as to serve as an outpost of public health. Many of the less developed countries are faced with this problem of whether to establish a public health unit first, concentrating on the eradication of mass diseases, or to begin with the provision of a hospital. Areas vary greatly but there is no doubt that in most circumstances the provision of an outpost, so to speak, would save the construction and maintenance of many hospitals. In a unit of this kind it is natural and proper to secure the complete integration of curative and preventive services. Some participants were ready to go further and to suggest that small units in urban areas also would serve the needs of general practitioners and at the same time provide a health service close to the homes of the people. It would be unfortunate if a sharp division were made between urban and rural services.

Home care

The question of a home care service —especially nursing and midwifery—was touched on by several groups. The extent of this service must necessarily vary from country to country. In the economically less developed areas provision of a full home nursing service may not be possible because of a shortage of nursing staff. In some countries practically all the midwifery is undertaken in the hospitals while in others it is a domiciliary service, with widwives who are for the most part untrained. Some groups thought that this type of service might well be brought together by the hospital authorities, while others considered that hospitals under normal conditions could not undertake such action.

In some countries " home helps " are a part of the home care service.

Many groups gave full consideration to the position of the general practitioner in relation to home care and the smaller hospital units. It was widely felt that the general practitioner should be brought into the health service as fully as possible and that he should in fact be the keystone of its structure in the smaller units, whether urban or rural. The general practitioner is the best guide to the needs of patients in relation to their families, their homes, and work places and their immediate environ-

[2] Expert Committee on Public Health Administration (1954) *Wld Hlth Org. techn. Rep. Ser.*, 83

ment, and any attempt to create a health service without his full co-operation is bound to lose much of its potential value. In particular the general physician is in the best position to deal with preventive and curative medicine at the same time and to give health education to the patients under his care and to their families.

THE HOSPITAL AND EDUCATION IN HEALTH

While many of the groups felt that the hospital could be regarded as only one part of the public health and medical care services, they were agreed that instruction in preventive medicine and the promotion of health was an essential hospital function. The aim of progress should be to secure a greater measure of co-ordination of the three medical services—hospital, public health and general medical practice. This could only be brought about successfully by a reorientation of medical education.

The medical student

In most medical schools the training of the undergraduate student is largely devoted to the basic sciences and, in the later years, to clinical medicine within the teaching hospital. It is still exceptional for students to receive any teaching of substance in preventive and social medicine, either through regular clinical study of these aspects in the wards or through the medium of visits to health centres, schools, industrial institutions, and families in their own homes. In many schools the teaching of public health as a subject of the curriculum tends to be perfunctory and to deal with the environmental side. It is only in recent years that a number of medical schools have assumed leadership by offering special courses of instruction in the prevention of sickness, the social aspects of medicine, and the promotion of mental and physical health. It has often been urged that such teaching should permeate the whole medical course, and no doubt this is the ideal arrangement. But it is far from being realized. In the meantime, and doubtless for a long period of development, it is essential that undergraduate medical schools should have the services of an organized department whose function is to undertake training and research in preventive and social medicine.[3]

Nurses

Just as the medical student in his undergraduate years should be presented with every aspect of prevention so the curriculum of a school of nursing should provide not only for a general education in the subject but also for greater teaching emphasis on preventive medicine and the promotion of health. Experience in health centres and in the homes of the people (under the supervision of public health nurses) should be part of the training. The nurse has an important role to play in family care and it is essential that she should be qualified to carry it out. In many countries a great deal of attention is being given to the integration of the preventive aspects in the nursing curricula. In this connexion special attention should be drawn to the report of the technical discussions for 1956 on the subject " Nurses: their Education and their Role in Health Programmes".[4]

Other hospital personnel

Many of the participants urged that outpatient departments of hospitals—large or small—were especially appropriate for the training of hospital personnel in health work. This is not merely a question of formal

[3] Grundy, F. & Mackintosh, J. M. (1957) *The teaching of hygiene and public health in Europe*, Geneva (*World Health Organization*: *Monograph Series*, No. 34)

[4] *Chron. Wld Hlth Org.*, 1956, 10, 207

teaching. A much more important feature is to encourage meetings of doctors and nurses in the out-patient department with the public health personnel. This is the right meeting place for the team consisting of specialists, hospital medical officers, nurses, and public health workers. In this teaching, the out-patient department should depend as far as possible on its own resources and should not have to look to outside agencies, such as the local public health department, for teaching material. Among the resources mentioned many of the ordinary out-patient activities could be better developed for teaching purposes, such as rehabilitation, education in nutrition and dietary habits, the early detection of communicable diseases, and the promotion of mental health including the preventive care of early and minor psychiatric disorders. The extent to which preventive activities are in fact carried out in the hospital is an excellent measure of the education which medical, nursing and auxiliary staff receive. In many instances a conscious effort is needed in hospitals and especially out-patient departments to develop a social and preventive attitude toward illness.

The whole matter of training in preventive activities was crystallized effectively by the chairman of one group. He pointed out that in many countries the separation of preventive from curative medicine persists in spite of the lip service that is paid to integration. " Physicians ", he said, " are stubborn in this idea. Even health officers are reluctant to make contact with hospitals. People who receive services from physicians and health departments readily recognize this separation. There needs to be a re-education of hospital and health workers and the public to the effect that curative and preventive medicine cannot be separated. Yet even in well developed countries a hesitation prevails. Hospital administrators have doubts about taking on additional duties and responsibilities. Most of them are already burdened with heavy loads and feel that it would be difficult to develop preventive services as part of the hospital programme." This group also felt that health officers should be closely linked with hospital administration and if possible become members of the hospital staff.

To sum up, these teaching functions should apply to the training of physicians, nurses, social workers, laboratory technicians and other members of the health professions. The opinion was expressed that it was unwise to isolate the hospital from educational activities for health and that the actual services of the hospital were of outstanding educational value. Many of the special health sciences could best be developed in hospitals and post-graduate education could be carried out within the hospital itself. In post-basic education of nurses for special clinical fields carefully planned integration of theory and practice is essential. The hospital is of major importance in providing the practical experience. Indeed, it was stated that among the more important factors which would limit or extend the value of the hospital to the profession and the community would be its stage of development in the matter of training personnel, especially with regard to the teaching of preventive medicine in medical schools.

The patient and the public

The hospital has many important contributions to make to the health education of the public. Maternal and child health is one of the preventive activities which can be developed in the hospital with the maximum efficiency and to the greatest advantage of the community. Pregnant women and mothers can be given basic health education and particularly teaching in the ordinary care of babies and young children. Health education methods can also be applied successfully to patients suffering from tuberculosis and other social diseases. Up to a point the same may be said of older people suffering from degenerative disorders such as cardiovascular diseases and early carcinoma.

In some countries mothers are allowed to stay with their children and give them simple

attention while they are patients in hospital. This is an admirable occasion for health education through the nursing service. During their stay in the hospital mothers can be taught how to care for their children during sickness and how to feed them correctly and make use of ordinary hospital routines including bandaging, nursing care, etc.

The mental health field is also full of promise. Hospital physicians can do much in this way by their own attitude to patients, giving them simple and kindly instructions and above all treating them as persons rather than cases.

On the whole the out-patient department of the hospital constitutes one of the most effective means by which we can promote health. The organization of these services differs very greatly between one country and another; and there are also considerable variations in the number and size of services on account of such factors as accessibility, social well-being, economic conditions and the number of medical practitioners and nurses available. In all areas, and perhaps especially in the more remote ones, hospital services through out-patient departments and small clinics can render a great service to public health.

ORGANIZATION OF HOSPITALS

GENERAL ADMINISTRATION

The central authority

In the older countries the hospitals grew up in response to some specific need such as the recognized association of poverty, age, and sickness. From time immemorial the great source of hospital care has been a religious or philanthropic foundation. In the presence of disaster, however, such as a great plague, it has been necessary for hospitals to be specially organized by government or some power clothed with authority. The modern hospital system depends in many countries partly on government funds and partly on voluntary resources. On the whole the tendency is towards increasing government participation and financial responsibility. The system of financing hospitals varies enormously in the countries represented in the groups. In the majority the central government or some subordinate governmental authority is directly responsible for the establishment and maintenance of hospitals. Among the most notable exceptions is the United States of America where a large proportion of hospitals is provided by private enterprise, either through associations of medical men or insurance organizations or foundations of an industrial or other origin.

In most countries the State is the authority which licenses all hospitals, whether voluntary or governmental. In some areas there is a private organization; in the United States of America and Canada, for instance, this is known as the Joint Commission on Accreditation of Hospitals. This Commission is sponsored by five professional bodies in the two countries. It inspects hospitals and issues certificates of accreditation based on standards of staffing, qualifications of personnel, quality of equipment, etc. In the main, however, the central authority itself (e.g., the Ministry of Health) is responsible for the standards maintained in the hospitals throughout its area. The government must be responsible either directly or ultimately for certain hospital programmes, such as the control of communicable diseases, the provision of medical care for the needy, and also certain services to deal with mass health problems such as widespread nutritional disease. In the rural areas of the less developed communities the government usually assumes full responsibility for hospital services, but in populous areas the utilization

of private or voluntary hospital services has been encouraged. In such cases, it is suggested that hospitals should receive subsidies for the care of the poor and for certain other conditions, such as the so-called "social" diseases. The main reason for this distinction is no doubt that in the remoter areas it is impossible for communities to meet the high costs of hospital construction and maintenance.

One of the discussion groups set out in its report a number of the limitations on the organization of a hospital system in the public health programme. Such limitations included (*a*) the economic and cultural development of the country; (*b*) the political and administrative organization; (*c*) the size of the country, including the distribution and density of its population and the communications available; (*d*) the traditional organization and background of public health and hospital services, e.g., the existence of the voluntary system or the direct development of State control; and (*e*) the stage of development reached by the country in the training of its own personnel, especially with regard to the teaching of preventive medicine in medical schools.

The regional system

A great majority of groups were, in principle, in favour of regional development of hospitals. They agreed that in that pattern the types of hospitals referred to in the section "The Hospital and its Functions" (see page 201) formed a satisfactory grouping. Under such conditions there should be a smooth flow of patients from one type of hospital to another without any administrative hindrances. Ideally the hospital region and the public health region should be geographically identical, with both services placed under one and the same authority for effective co-ordination. In practice this would be extremely difficult in certain countries where the hospital system was widely developed before a public health service came into existence. In some countries, for example, many generations ago, small hospitals were built in various centres of population and have been up to the present time practically autonomous. To regroup them into a practical administrative system under a regional authority would be virtually impossible. In other countries, however, in which active development of services has recently taken place or is still under consideration the very fact that there are few established medical and public health services makes it feasible to apply from the outset the principle of regionalization.

It was generally agreed that the most valuable function of the regional system was to co-ordinate the hospitals and to promote local interest without attempting to achieve unification. In some cases it is no doubt desirable to have a common system for the purchase of stores and supplies, and even within regions hospital groups can provide for laundry services. Ambulance services, however, while being carefully co-ordinated regionally should be based on individual hospitals.

To sum up, the concept of hospital regionalization means the establishment of a close working relationship between several categories of hospitals. Among these were mentioned (*a*) the central hospital, generally affiliated with a university and devoting considerable time to teaching; (*b*) the intermediate hospital, located in large centres of population, but without university connexions; (*c*) the local community hospital of a more general character; and (*d*) the rural health and hospital centre. This does not imply that the regional system is a hierarchy in which larger hospitals are in more or less direct control of the smaller. On the contrary, while the central authority is in over-all charge of the hospital system and the regional authority has many planning and advisory responsibilities, each hospital within the region has its own pattern of service in accordance with the needs of its community. The object of the regional system is not to exercise meticulous day-to-day control but to co-ordinate the hospitals in order to secure from each the best service available. Regional development is essentially a decentralization

with the ultimate object of bringing each hospital into a closer relationship with the community it serves. It is of great importance that hospitals should not be isolated from the realities of social, economic and cultural features which characterize its community.

A regional and decentralized system of hospital service also provides a greater fluidity in the use of personnel. In other words, a physician or other health worker can be transferred readily from one category of institution to another. By this means it is possible to concentrate medical and nursing forces where they are immediately required; for example, in the case of an emergency or a serious disaster. A second advantage is that the health worker secures a greater variety of work than when he is confined all his working life to a particular hospital. In addition to this, the regional system has certain advantages with respect to the ready adjustments which can be made when unexpected changes in the picture of health and sickness impose strains on the hospital services. A striking example of this is the rapidly changing importance of tuberculosis in many countries compared with the position of a decade or two ago. In a regional system it is felt that a particular institution can be more easily adapted to some new social requirement. Such changes are exceedingly difficult where there is no co-ordination or affiliation in the hospital services.

INTERNAL ADMINISTRATION

The administrator

The administration of individual hospitals varies in different countries but there is no doubt that the majority of the groups favoured the system by which hospitals are in charge of medically qualified administrators. In most cases these hospitals also have administrative officers acting as deputies to relieve the medical administrator of most of the responsibility for purely financial business and domestic matters. In a number of countries, however, non-medical administrators are widely used and in many cases they are highly trained in hospital administration. Generally speaking, however, most of the groups felt that a medically qualified administrator was preferable because he is in a better position to understand and assess the relative importance of the requirements from members of the medical staff in charge of different branches of the hospital. He is also in a better position than a non-medical officer to maintain satisfactory relations with the medical heads of departments, and further—a most important point—to encourage the development of preventive medical work in association with the hospital service as a whole

Some of the groups gave special attention to the administrative problems of the smaller hospitals. In some cases it would be both possible and desirable to appoint the local health officer as medical director of one or more smaller units, while in others it might be more convenient to appoint a medical administrator in charge of a group of units serving a considerable area. In some countries a course of training of university standard has been designed for medical or non-medical persons entering the sphere of hospital administration. This is a valuable advance and the formal course ought in every case to be supplemented by in-service training.

Problems of special areas

In the large cities associated with university centres the teaching hospital presents difficulties of its own. The needs of medical and nursing education have to be met within the same administrative system as hospital management and the care of patients. In some areas this difficulty is surmounted by the appointment of a special educational committee of which the medical adminis-

trator is a member, while in others there is an almost complete separation of functions. In the larger hospitals which have no university teaching functions, the administrative pattern is simpler and more regular. As a rule the medical administrator is secretary to the managing body and at the same time a member of the medical committee which deals with all professional matters. The essence of success lies in teamwork in which medical, nursing, catering and auxiliary services are brought together under a co-operative system of control, preferably through an internal committee of which the medical administrator is chairman. In the smaller towns and urban areas it is less easy to justify the appointment of a whole-time medical administrator. Some of the groups felt that administrative functions could well be combined with the duties of a health officer. In actual practice, medical administration of hospitals of this intermediate size is often undertaken by a member of the medical staff who has also clinical functions, e.g., in radiology or some other specialty. This system may work satisfactorily provided that there is a junior medical administrator whose duties fit in with the general arrangement.

Lastly, in very small and remote units of hospital care, such as rural health centres, administrative duties are often undertaken through the agency of the nearest intermediate hospital. For day-to-day duty it is often found convenient to have a senior nurse in charge or to have the centre under the general supervision of a local general medical practitioner. In such areas, at any rate, it is important that these centres should be co-ordinated under the skilled management of some combined hospital and health centre and not left in isolation.

PROBLEMS OF CONSTRUCTION

On the question of construction of hospitals there was relatively little discussion. It was generally agreed that design was a local problem depending on materials available and on the type of construction prevalent in the particular district. In highly populous areas in cities, the cost of the site was a major factor and it was generally necessary to build hospitals of many storeys. Central units in populous areas would always be necessary, especially for emergency and out-patient work. On the question of siting, however, several discussions brought out the view that the larger hospitals might well be built on the outskirts of populous areas. The factors which governed the choice included the need to avoid excessive noise, the availability of land and its cost, and above all the amenities which would surround the building. In hospital construction it is of great importance that medical and nursing staff should be consulted with regard to the architectural plans. This is especially urgent in connexion with nursing in order to avoid the excessive waste of time and effort on the part of the nursing staff in what is called travel time, while at the same time giving full consideration to the comfort of the patients.

With special regard to planning several groups urged that construction projects should be drawn up by a technical expert on the site, and that in public health ministries there should be a functional group of doctors, architects and engineers who would study every scheme put forward. In the view of one group the hospital section could be readily built in several storeys, but the technical services should be so organized as to permit of some flexibility and provision for ultimate expansion.

In the less developed areas it is both convenient and economical to secure the construction of standardized units and to have special regard to mobility, that is, the ready transport of standardized sections. This is of particular importance in countries and areas where communications are difficult and roads unsatisfactory.

NOTES ON FINANCING

All the discussion groups gave some attention to the problems of financing hospital services and the increasing costs of hospital care. As might be expected, the great variety of countries and groups represented brought out many different patterns of financial control. In some instances the central government was responsible for the entire provision of hospital and health services, but a number of groups felt that this might tend to interfere with originality and produce a somewhat dull and mediocre uniformity. One group indicated that it did not support any compulsory system of health insurance, believing that all people should pay for some part of the services received, whether in the hospital or through its out-patient department. It was suggested that the assumption by a third party of the full cost of insurance, whether compulsory or voluntary, might well prove to be too expensive. Nevertheless all groups recognized that under modern conditions governments had some responsibility in making financial provision for hospital care, even though it were only for the indigent. The essential feature of all hospital care nevertheless rests on this assumption, that there should be no financial bar between the patient and the medical attention he needs at the moment of sickness, accident or other emergency.

One final matter was emphasized in relation to finance—the danger that curative services, which are by the nature of things much more costly than preventive, tended to swallow up the funds available for public health work. It is usually easier to obtain funds for curative work. Apart from the greater willingness of governments to allocate such funds, it is notorious that voluntary contributions are far more easily obtained for such purposes. Voluntary funds are in fact rarely available for preventive purposes and the promotion of health.

The question was raised whether WHO might drawn up suggestions for guidance applicable to the various types of hospitals in different parts of the world with regard to financing, construction, and operation of hospitals. In this connexion the group noted with satisfaction point 8(2) [5] of the first report of the WHO Expert Committee on Medical Care, according to which the future work of the Committee would include the framing of plans and organization of hospitals of all kinds.

In the closing discussion at the plenary session it was suggested that the hospital problem was so great and so diffuse that the study of the role of the hospital in the public health programme should not be confined to the present technical discussions and should be continued in the manner considered by WHO to be most appropriate.

[5] *Wld Hlth Org. techn. Rep. Ser.*, 1957, **122**, 27

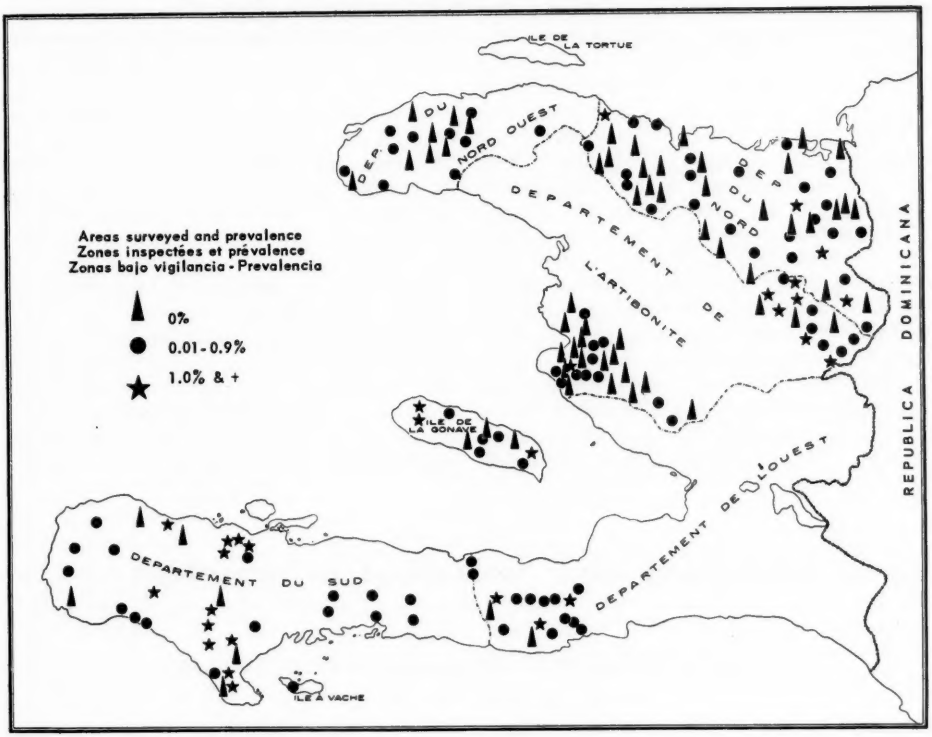
FIVE YEARS OF YAWS ERADICATION IN HAITI *

As a result of the campaign against yaws in Haiti which began in July 1950, the prevalence of symptomatic yaws among the rural population has been reduced to approximately 0.5%. Attention had been drawn to the high prevalence of this disease in Haiti, prior to the starting of the campaign, by United Nations experts and other investigators as well.

The campaign has been conducted jointly by the Government, the Pan American Sanitary Bureau (WHO Regional Office for the Americas) and UNICEF, with the primary aim of eradicating yaws by mass

* Summary of an article by Dr E. Petrus, Director-Administrator of the Yaws Eradication Service, Haiti, and the late Dr J. Velarde Thome, entitled *Cinco años de campaña contra la frambesia en Haiti*, which appeared in the *Boletín de la Oficina Sanitaria Panamericana*, January 1957.

PREVALENCE OF ACTIVE YAWS IN HAITI (DECEMBER 1955)



penicillin treatment; a secondary aim has been to eliminate rural syphilis by therapy of infectious cases.

It is clear that, to eradicate yaws, both the infectious and the potentially infectious cases have to be given adequate treatment and that the treatment used has to be easy to apply to large numbers of persons in the shortest possible time and with the minimum risk entailed. For this purpose procaine penicillin G in oil with 2% aluminium monostearate (PAM) was chosen, 600 000 units being given to cases and 300 000 to contacts. Any person with symptoms suspected to be those of yaws was classified as a case and symptomless persons in some relation with the cases were considered contacts.

Operations started in the Southern Department under a " daily clinics " system whereby the population of an area to be treated was notified of the place and date chosen for examination and treatment. Between 20 July and 27 October 1950, 666 738 persons were treated, or, according to the census returns only slightly over 60% of the population of this Department.

Success of house treatment method

It was then decided to adopt a method which would ensure much fuller coverage of the population. This was achieved by treatment teams making house-to-house visits throughout the country; yaws cases were

given 600 000 units of PAM and the remainder of the household in which a yaws case was found was given contact treatment. By the end of December 1954, 97.2% (2 834 712 persons) of the rural population of Haiti had been treated by this method, 32.5% of these as cases and 67.5% as contacts. Adding the number who had received injections under the " daily clinics " method, the total number of persons treated came to over 3½ million.

A number of resurveys made in various parts of the country in order to evaluate the results obtained showed the prevalence to have dropped to such an extent that by January 1955 the home-treatment method could be replaced by one based on the early discovery and treatment of yaws cases and the treatment as contacts of other members of the household and of the four nearest houses. When symptomatic yaws was discovered in a schoolchild, all other pupils were treated as contacts.

To apply this method the country was divided into five zones, 10 subzones and 78 districts. In each district an inspector, with previous training in yaws diagnosis and in epidemiological work, was appointed to be permanently responsible for the district. In the first five months of 1955, 2087 cases of yaws, and 13 007 contacts (approximately six for every case) were treated throughout the 78 districts.

Although by the end of May 1955 the major stages of the campaign had been completed, the work which has been carried out in the various districts for the discovery and treatment of yaws cases and their contacts, as well as health education, is being continued by the district inspectors under strict medical and administrative supervision.

Epidemiological and Statistical Information

WORLD INCIDENCE OF POLIOMYELITIS (1950-55)

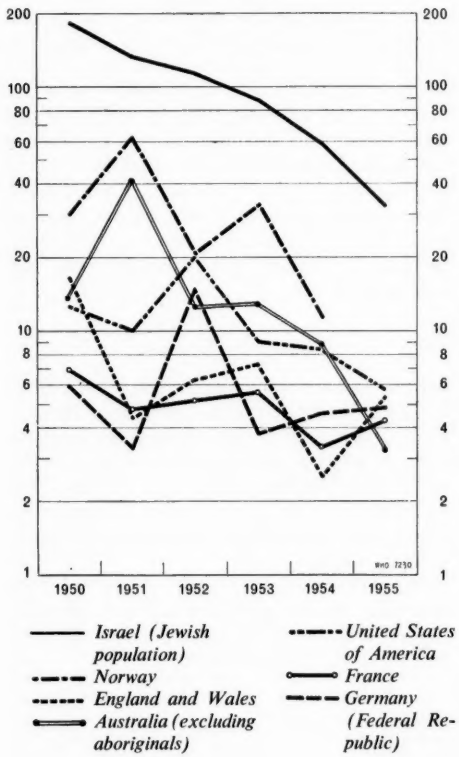
Of the various virus diseases, poliomyelitis is probably the one which attracts most attention and in connexion with which the most active research has been carried out. The disease is present everywhere, and each year attacks a considerable number of persons. The serious *sequelae* it leaves behind, even more than the large number of deaths it causes, make poliomyelitis a particularly pressing public health problem.

A recent number of the WHO *Epidemiological and Vital Statistics Report* deals with the annual incidence of poliomyelitis, for the period 1950-1955, in 61 countries. [1] The statistical information contained in the Report raises the question of the difficulties encountered in assessing poliomyelitis morbidity and mortality. In practice, the number of cases of poliomyelitis notified to health authorities often represents only a fraction of the real total. This is also true of other notifiable diseases but the discrepancy is more marked with poliomyelitis as a considerable proportion of non-paralytic cases—which can vary from country to country according to whether or not an epidemic is present—may escape notice. Furthermore, it is very probable that many more cases are notified in such countries as the United States of America and the United Kingdom, where, on account of the marked increase in incidence of the disease during recent years the detection of cases is becoming more and more thorough. There are, however, other factors which affect the comparability of morbidity and mortality statistics as between countries, and even as between different regions of the same

[1] *Epidem. vital Statist. Rep.*, 1957, **10**, 115-146 (No. 3). This number also contains tables relating to mortality due to anaemia since the beginning of the century, and to cases of and deaths from smallpox during the last 10 years.

country, such as the number of physicians in ratio to the population, and the rural or urban, " primitive " or " developed ", nature of certain regions.

WORLD INCIDENCE OF POLIOMYELITIS IN SEVEN COUNTRIES
1950-1955



It is then quite understandable that, as notifications of cases of poliomyelitis are most complete for North America and Europe, comparison of data can only have some significance as between these two continents.

However, in spite of the reservations and gaps, the statistical information provided in the Report is interesting as it underlines the changes in the incidence of the disease from one year to another, and gives some general idea of the situation in the countries studied. It also makes it possible to obtain a picture of the international aspects of this problem.

The analysis which follows is necessarily condensed and limited to the more significant aspects of incidence of the disease in the period 1950-1955 in the various continents.

Africa

Numerically speaking, notifications for the continent of Africa as a whole are relatively few. Nevertheless, during the period under consideration there was a marked increase in the numbers of cases and deaths registered in the various African countries and territories. This was particularly so in French West Africa (385 cases in 1954 and 117 in 1955, as against 11 in 1950); in Angola (764 cases with 60 deaths in 1951 and 270 cases with 10 deaths in 1955, as against 9 cases in 1950), and in the Belgian Congo (750 cases with 43 deaths in 1954 and 1216 cases with 48 deaths in 1955, as against 337 cases with 19 deaths in 1950). In fact, morbidity and mortality from poliomyelitis in the Belgian Congo has increased every year since 1950. A similar tendency—somewhat less marked—has been noted in Egypt, Kenya, Southern Rhodesia, and Tanganyika. In the Union of South Africa, 856 cases with 40 deaths were notified in 1954 as against 161 cases with 12 deaths in 1950.

America

Although information is lacking or is very incomplete for a number of countries and territories in the two Americas, for certain others notifications were particularly numerous during the period under review. In Canada, for example, 8888 cases, with 481 deaths, were notified in 1953. In the United States of America, 57 879 cases and 3145 deaths were registered in 1952, that is, twice as many as in 1951 (28 386 cases and 1551 deaths) and more than during any year since the disease became notifiable. The

United States mortality rate (per million inhabitants) reached 20.2 in 1952; it fell to 5.7 (provisional figure) in 1955. In Canada the two extremes were 32.6 in 1953 and 2.3 in 1955.

In 1953, important outbreaks were noted in Argentina and Brazil; in 1950 in Chile; in 1951, 1953 and 1955 in Mexico; and in 1955 in Peru, Puerto Rico and Uruguay.

Asia

Information available for 10 Asian countries and territories is too fragmentary and incomplete to permit any valid conclusions to be drawn. In general, however, it may be said that incidence of poliomyelitis in Asia and the Middle East has varied considerably from country to country. The situation with regard to Israel is particularly interesting: before 1950 widespread epidemics of poliomyelitis were unknown but in that year 1604 cases and 202 deaths were registered. In the following years, the figures gradually fell until, in 1955, there were only 479 cases, with 51 deaths.

Europe

In the 23 European countries and territories for which information is available there were important epidemic outbreaks during the period. Although the number of cases notified was lower than in the United States—whose population is only half that of the European countries in question—mortality was much higher. For all 23 countries notifications numbered 15 708, with 1459 deaths in 1951, and 30 818 cases (record figure for Europe) with 2275 deaths, in 1952. In 1950, the countries most affected were Norway, with a mortality rate of 30.3 per million inhabitants, and Sweden, with a mortality rate of 22.4. The least affected country was Belgium, with a rate of 2.8. In 1951, Norway still headed the list with a rate of 62.8 followed by Switzerland (18.3). Denmark had the lowest rate in that year (0.2). In 1952, on the other hand, the rate in Denmark reached 60.7, while Scotland was the least affected (2.3). In 1953 Norway once again had the highest rate (32.4) and the Netherlands had the lowest (0.8). In 1954 the highest was Switzerland (22.7) while the Netherlands kept its place at the bottom (0.3). The statistical data for 1955 with respect to certain countries are still not available.

Oceania

Statistics are shown in the Report for three countries and territories—Australia, Hawaii, and New Zealand. For these three the year 1951 marked a considerable increase in the numbers of cases (4779) and deaths (348) as compared with the other years under study. The figures for 1955 were 1995 cases, with 64 deaths.

In conclusion, it should be noted that mortality from poliomyelitis is definitely higher among males than among females in the 61 countries studied.

PLAGUE IN 1956

Although plague is receding throughout the world, it still persists in an endemic state in certain areas. According to information contained in a recent issue of the WHO *Weekly Epidemiological Record* (No. 19, 1957), there were fewer than 700 cases of human plague officially notified during 1956, as against about 1250 cases in 1955 and 1900 in 1954. The 1956 decrease was due primarily to a further fall in the incidence of the disease in India and to the small number of cases recorded in Burma and Indonesia. As will be seen from the accompanying maps, the other principal foci of the disease are in Central Africa, the northern parts of South America, and Viet Nam.

PLAGUE IN 1956

Reports of Expert Groups

RABIES

During the third session of the Expert Committee on Rabies, attention was focused on the progress made in the field of rabies since the previous meeting in 1953.[1]

In the Committee's third report,[2] the problems of diagnosis, treatment of man, and rabies control in animals are again dealt with, and the question of antirabies serum and vaccine once more comes under discussion. A recent finding [3] has enabled the Committee to establish the value of serum and vaccine treatment. Until 1954, when an opportunity arose in Iran to study the effects of combined treatment on some 30 persons, the number of cases had been too few to give a significant demonstration of the efficacy of this method. The results of other practical tests and of laboratory studies are now available as further proof.

In accordance with its usual practice, the Committee took the latest experimental results as a basis for revising the recommendations it had previously formulated for the specific treatment of rabies after exposure to infection. A tabulated guide, indicating what measures should be taken in the event of a bite by an animal presumed to be rabid, is included in the report and will be of the greatest practical value to sanitarians and physicians. This guide, which is reproduced in the present article, together with some explanatory notes, represents a slight revision of guides published in previous reports of the Expert Committee.

The Committee's report also contains the results of experimental studies on the immunization of animals against rabies, and recommendations for rabies control in animals. The measures to be applied to dogs and cats coming from countries known to be infected have already been mentioned in these columns.[4]

The Committee especially emphasized the importance of rabies control in wildlife, and pointed out that the rabies virus had recently been isolated from insectivorous bats. Although there is no direct evidence of natural transmission of rabies from insectivorous bats to man or to lower animals, the possibility must not be overlooked, as there have been many instances in which proven rabid bats have bitten human beings. Vampire bats in Latin America are frequent transmitters of rabies to man and animals.

Finally, the Committee considered that potency tests for vaccines should be more standardized and be brought into general use. Such tests would make it possible to ascertain the presence and duration of antigenicity and would help to determine the stability of the vaccine. The acceptable potency and therapeutic dosage of the serum have been carefully defined and stipulated in the Committee's third report.

[1] For an account of the work of the second session, see *Chron. Wld Hlth Org.*, 1954, **8**, 139

[2] *Wld Hlth Org. techn. Rep. Ser.*, 1957, **121**, 32 pages. Price: 1/9, $0.30, Sw.fr. 1.—. Published in English, French, and Spanish.

[3] See *Chron. Wld Hlth Org.*, 1955, 9, 308

[4] See *Chron. Wld Hlth Org.*, 1957, **11**, 49

GUIDE FOR SPECIFIC POST-EXPOSURE TREATMENT

Nature of exposure	Status of biting animal		Recommended treatment (in addition to local treatment) *
	At time of exposure	During observation period of 10 days	
I. No lesion; indirect contact only	rabid	—	none *
II. Licks:			
(1) unabraded skin	rabid	—	none *
(2) abraded skin, scratches and unabraded or abraded mucosa	(*a*) healthy	healthy	none *
	(*b*) healthy	clinical signs of rabies or proven rabid (laboratory)	start vaccine at first signs of rabies in animal *
	(*c*) signs suggestive of rabies	healthy	start vaccine immediately; stop treatment if animal is normal on 5th day after exposure *
	(*d*) rabid, escaped, killed, or unknown	—	start vaccine immediately *
III. Bites:			
(1) mild exposure	(*a*) healthy	healthy	none *
	(*b*) healthy	clinical signs of rabies or proven rabid (laboratory)	start vaccine at first signs of rabies *
	(*c*) signs suggestive of rabies	healthy	start vaccine immediately; stop treatment if animal is normal on 5th day after exposure *
	(*d*) rabid, escaped, killed, or unknown (*e*) wild (wolf, jackal, fox, bat, etc.)	—	start vaccine immediately *
(2) severe exposure (multiple, or face, head or neck bites)	(*a*) healthy	healthy	serum immediately; no vaccine as long as animal remains normal
	(*b*) healthy	clinical signs of rabies or proven rabid (laboratory)	serum immediately; start vaccine at first sign of rabies
	(*c*) signs suggestive of rabies	healthy	serum immediately, followed by vaccine; vaccine may be stopped if animal is normal on 5th day after exposure
	(*d*) rabid, escaped, killed, or unknown (*e*) wild (wolf, jackal, fox, bat, etc.)	—	serum immediately, followed by vaccine

*** The great importance of local treatment is re-emphasized and the ideal local treatment includes infiltration with antirabies serum together with thorough cleansing of the wound and the application of nitric acid where the site permits (see section 5. 1, page 11 of the report). The dose of serum used in local infiltration will be dictated chiefly by the site of the bite. However, where possible, not less than 5 ml should be used.**

The general principles on which the accompanying guide is based are that in mild exposures a course of vaccine following the above recommended local treatment is sufficient, whereas following severe exposures the full systemic dosage of antirabies serum together with vaccine should be employed. In such systemic use of serum, although it is recognized that the earlier the treatment is started the better, there is no time limit as to when serum can and should be given. For the reasons stated in section 2. 3 (page 6 of the report), serum should be administered in a single dose (0.5 ml per kg of body-weight) at the start of treatment, followed by a course of not less than 14 daily doses of vaccine.

Sensitivity to serum should be tested before serum is used.

It is fully recognized that in certain situations specific conditions may warrant modifications of the accompanying guide, e.g., exposure, especially in young children or where a reliable history cannot be obtained, and particularly in areas where rabies is known to be enzootic even though the animal at the time of exposure is considered to be healthy. Such cases may justify treatment immediately in a modified way. One possible modification is that, following local treatment of the wound as described above, two or three doses of vaccine be given at daily intervals and no further doses as long as the animal stays healthy for 10 days following exposure.

It should be emphasized at this point that this table is only a guide and that certain circumstances may justify its modification.

***Note :* The above schedule applies equally whether or not the biting animal has been previously vaccinated.**

HOSPITALS AND COMMUNITY HEALTH PROTECTION

The promotion of health is no longer concerned only with the control of pathogenic dangers, but also with the maintenance of the physical, mental and social well-being of all members of society. Hitherto the role of the hospital has been restricted to the treatment of diseases and injuries, but the time has come to widen its scope. The Expert Committee on Organization of Medical Care considers, in a recently-published report [1], how the hospital can provide the population with complete health care, both curative and preventive, and also be a centre for the training of health workers and for bio-social research.

The hospital must not be an isolated institution: it must fit into the general health programme and seek to gain the full support of the population by every available means.

It is by regionalizing the hospital system, i.e., by establishing around central hospitals a network of intermediate and local hospitals and health centres, that hospital resources can best be adapted to the needs of the community. Every general hospital should have a sizable out-patient department, providing consultation services and home medical care, through which it can reach out to the family unit. The concepts of " day hospital " and " night hostel " have recently been introduced. At the day hospital patients can receive the necessary treatment and return home in the evening. The night hostel receives patients who are able to work during the day, but whose home conditions might aggravate their illness or make treatment impossible.

With regard to administration, the Committee considered it preferable for a physician to be in charge of a hospital. Nurses and medico-social workers will be called upon to perform an increasingly important role in hospital teams, while general practitioners and public health officers must also play their part in hospital activities.

In brief, the general hospital should be so planned as to provide medico-social institutions, public health administrations and individual practitioners with material support and with a means of achieving over-all co-ordination.

[1] *Wld Hlth Org. techn. Rep. Ser.* 1957, 122. 34 pages. Price: 1/9, $0.30, Sw.fr. 1.—. Published in English, French, and Spanish.

BIOLOGICAL STANDARDIZATION

At its tenth session,[1] the Expert Committee on Biological Standardization authorized the establishment of international standards, as well as the assignment of international units, for the following substances: (1) pertussis vaccine; (2) diphtheria antitoxin for flocculation test (fourth standard); (3) gas gangrene antitoxin (*vibrion septique*) (third standard); (4) streptomycin (second standard); (5) tetracycline; (6) erythromycin; (7) oxytocic, vasopressor and antidiuretic substances (third standard; previously called: posterior pituitary lobe); (8) prolactin (second standard); (9) insulin (fourth standard); (10) dextran sulfate; (11) heparin (second standard); (12) vitamin B_{12}. It also authorized the establishment of the third international reference preparation of cardiolipin.

The Committee decided that there should no longer be international standards for provitamin A, vitamin B_1, vitamin C and vitamin E, and offered the remaining stocks of these materials, together with those of some other substances for which the standards had already been discarded, to the Expert Committee on the International Pharmacopoeia, for inclusion in the Collection of Authentic Chemical Substances held at Stockholm. It was also decided that the

[1] *Wld Hlth Org. techn. Rep. Ser.*, 1957, 127, 35 pages. Price: 1/9, $0.30, Sw.fr. 1.—. Published in English, French and Spanish.

international standard for staphylococcus-β antitoxin would not be replaced and that its routine distribution would be discontinued.

Among other substances mentioned in the report, on which work is in progress towards the establishment of international standards or reference preparations are: typhoid, rabies, smallpox and swine erysipelas vaccines; antivenins; antistreptolysin 0; blood-typing sera, poliomyelitis sera; typhoid and paratyphoid agglutinating sera; syphilitic human serum; neomycin; phenoxymethylpenicillin; procaine benzylpenicillin in oil with aluminium monostearate (PAM); and pyrogens.

An annex to the report contains an up-to-date list of the existing international biological standards and reference preparations, giving particulars on date of establishment, unitage, and form in which the standard is dispensed, as well as numerous bibliographical references.

Health Legislation

DIPHTHERIA IMMUNIZATION: EXISTING LEGISLATION SURVEYED

In order to prevent any further outbreaks of diphtheria, one of the essential tasks of the health services is to ensure that as many people as possible are immunized. In the United States of America and in Great Britain, for example, it is estimated that, in order to check diphtheria, at least 70% of the child population must be immunized.

However, even when immunization is accepted in principle, the methods used to put it into practice in countries where endemic diphtheria exists are not uniform. While certain countries have decided that it is best to make immunization compulsory, others believe that health education of the public is sufficient.

The health services responsible for diphtheria immunization programmes are faced with other difficulties, for to the well-established diphtheria and smallpox immunizations there have been added in recent years immunizations against tuberculosis, tetanus, whooping-cough, typhoid-paratyphoid, etc., and still more recently, poliomyelitis vaccination. Immunization against some of these infectious diseases has, moreover, been made compulsory in several countries. While the use of combined vaccines (diphtheria-tetanus-whooping cough, etc.) facilitates the carrying out of immunization programmes against certain communicable diseases, decisions as to the types of vaccine that may be associated, and the age at which such vaccines should be administered, raise further problems.

A survey that has just been published in the *International Digest of Health Legislation* [1] reviews the measures provided for in some twenty countries where diphtheria immunization is compulsory. Where deemed apposite, account has also been taken of the recommendations made by WHO Expert Committees and the views of certain specialists with regard to various aspects of diphtheria immunization.

Compulsory diphtheria immunization was first introduced in the year 1932 by the Canton of Geneva, Switzerland. Between that date and the outbreak of the Second World War, about ten countries followed suit. In certain other countries where immunization had not been made compulsory a considerable number of children were nevertheless immunized as a result of publicity campaigns. Since 1940, more countries have enacted diphtheria immunization legislation so that at the present time it is compulsory in about 20 countries.

However, it should be noted that in certain

[1] See *Int. Dig. Hlth Leg.*, 1957, 8, 171. This survey has also been published as a pamphlet (price: 1/9, $0.30, Sw.fr. 1.—.)

of these countries systematic immunization is not compulsory. In some it is compulsory only for certain groups of the population or when there is risk of an epidemic or when the health authorities deem it necessary.

The age prescribed for immunization varies. In some countries it is six months; in others between six and twelve months; and in others again it is required as a condition for entry to school. Some experts recommend early immunization, during the third or fourth month of life.

Although it is necessary to sustain the immunity acquired by means of reinforcing doses, many countries where primary immunization is compulsory make no provision for the administration of reinforcing doses. In others, on the other hand, one or two, and sometimes more, reinforcing doses are prescribed.

Combined immunizations were first prescribed in France in 1936. Few countries stipulate that combined vaccines must be used; in Canada and in the United States of America, however, diphtheria immunization is rarely given alone but is almost always associated with immunization against tetanus and/or whooping cough. Certain population groups which are especially exposed to the risk of infection may be required to be immunized against diphtheria and sometimes against tetanus and typhoid-paratyphoid as well; this is the case in France and in Yugoslavia, and applies especially to nursing personnel.

In certain countries immunization programmes are only put into effect when an epidemic occurs or an endemic shows signs of spreading. In countries where immunization is compulsory, persons who have already been immunized may be required to receive a reinforcing dose whenever there is a risk. There are many causes for exemption from and contra-indications to diphtheria immunization and these vary considerably from country to country.

The subject matter of this survey is dealt with under the following headings: introduction; historical review; diphtheria immunization laws; compulsory immunization (age for primary immunization and for reinforcing doses; combining immunizations; emergency immunization; immunization and occupation); causes for exemption, and contra-indications; organization of immunization programmes; miscellaneous (health education, vaccines, immunization technique); conclusion; references.

Notes and News

WHO Executive Board : Twentieth Session

The Executive Board of the World Health Organization held its twentieth session at the Palais des Nations, Geneva, on 27 and 28 May 1957. At its opening meeting, the Board unanimously elected Sir John Charles, Chief Medical Officer, Ministry of Health, London, to succeed Professor G. A. Canaperia as Chairman. Dr P. E. Moore, Director, Indian and Northern Health Services, Department of National Health and Welfare, Ottawa, and Dr Dia El-Chatti, Director of International Health Affairs, Ministry of Health and Social Insurance, Damascus, were elected Vice-Chairmen, while Dr A. da Silva Travassos, Director-General of Health, Ministry of the Interior, Lisbon, and Dr Hafez Amin, Under-Secretary of State, Ministry of Public Health, Cairo, were chosen as Rapporteurs. This session of the Board was attended by six new members designated, in accordance with a decision taken by the Tenth World Health Assembly, by the following countries : Afghanistan, Australia, Egypt, Germany (Federal Republic), Liberia, and the United States of America.

The Board authorized publication of the reports of four WHO Expert Committees:

Yellow Fever Vaccine (first report); Occupational Health (third report of the Joint ILO/WHO Committee); Mental Health (fifth report); Health Statistics (fifth report).[1] The Board also noted the reports of the following WHO Study Groups: International Standards of Drinking Water Quality; Use of Specifications for Pharmaceutical Preparations; Treatment and Care of Drug Addicts; and International Protection Against Malaria.

With regard to the date and place of the Tenth Anniversary Commemorative Session and the Eleventh World Health Assembly, the Executive Board authorized the Director-General, Dr M. G. Candau, to negotiate with the Government of the United States of America (which has extended an invitation for these to be held in the United States), to communicate the agreement reached to the members of the Board, and to report on the matter at the next session of the Board.

Among the other resolutions adopted at the twentieth session were those determining the composition of the Board's various committees. One of these—the Standing Committee on Administration and Finance—will meet immediately before the next session of the Board to examine the Director-General's proposed programme and budget for 1959.

It was decided that the next session of the Executive Board would be held in the Palais des Nations, Geneva, on 14 January 1958.

Venezuelan donation for malaria eradication

The Government of Venezuela has recently contributed 1 000 000 bolivars (approximately $300 000) to the Malaria Eradication Fund of the Pan American Sanitary Organization. The money was handed over by the President of Venezuela to the Director of the Pan American Sanitary Bureau, which acts as WHO Regional Office for the Americas, at a special ceremony in Caracas.

Venezuela—a country which receives technical assistance from WHO in the development and co-ordination of its rural health services—has made considerable progress towards the eradication of malaria. The disease has now been eliminated from an area of 134 750 square miles where more than 80% of the total population of the country is concentrated. Mortality from malaria in Venezuela has been reduced from 110 per hundred thousand of the population in 1941-45, to 8.5 per hundred thousand in 1950, and latterly to 0.3 per hundred thousand in 1955. The Government of Venezuela has at present the largest national anti-malaria budget in the Americas and it is planning to extend the eradication programme to the remaining foci.

Installation of the Regional Office for Europe in Copenhagen

At a ceremony which took place in Copenhagen on 15 June 1957, a new building erected by the Danish Government was formally placed at the disposal of the World Health Organization for use as its Regional Office for Europe. At the handing-over ceremony, Mr H. C. Hansen, the Danish Prime Minister and Minister for Foreign Affairs, and Dr Johannes Frandsen, Director-General of the National Health Service, represented the Danish Government. The World Health Organization was represented by its Director-General, Dr M. G. Candau, and the Regional Director for Europe, Dr Paul J. J. van de Calseyde.

The WHO Regional Office for Europe will henceforward be permanently established in Copenhagen, where it will continue the work previously carried out by it while located provisionally in Geneva.

Decentralization in WHO

Physical distance always creates organizational problems; many additional administrations and commercial enterprises have accepted the solution of delegated responsibility in certain aspects of their affairs, and international administration does not differ

[1] These reports will be published later in the *World Health Organization: Technical Report Series.*

fundamentally from any other. Mr R. Berkov, whose study on decentralized international administration was recently published,[1] considers, however, that the recent growth in number and complexity of intergovernmental institutions demands an examination of the administrative machinery they employ. There have been a number of general studies on the characteristics of international administration—as, for example, that of E. Wertheimer [2] and various articles in American, British and French specialized periodicals. Several historical treatments of international health organizations have also been published, and the Constitution of WHO has been the subject of one juridical study—by J. Crabol,[3] a French physician. Mr Berkov has chosen WHO for his thesis because it has not as yet been extensively studied, and because its organization differs somewhat from that of other UN Agencies. He reviews its history and development, and attempts to assess the value of its administrative policy.

John Stuart Mills' proposition: "The authority which is most conversant with principles should be supreme over principles, while that which is most competent in details should have the details left to it" may perhaps be recognized in the regionalization policy of WHO. Mr Berkov traces the early development of this move towards decentralization which had its origin in the constitutional provision for six regional organizations, and suggests reasons which may lie behind it. He then outlines the machinery of regional administration, discusses the allocation of responsibility as between the centre and the periphery of the Organization, and indicates some of the problems which generally accompany a policy of decentralization. He points out that this policy affects, of course, only a part of the extensive operations of WHO. Such projects as the epidemiological information services, the continuous collation of health statistics, the extension of internationally-agreed sanitary regulations, the establishment of biological standards, the publication of an International Pharmacopoeia, the collaboration in research of international importance—all these can best be undertaken by the central secretariat. The efficiency of the Organization is thus assisted by its policy of decentralizing only where this best answers the case. As the Director-General stated in 1951 : "Increased decentralization has . . . brought the Organization into closer touch with the most immediate needs of Member countries, and has enabled WHO to begin to assist each country in taking the next appropriate step towards developing its public-health services, within the limits of its economic, social and cultural circumstances ".[4]

Mr. Berkov's detailed examination of WHO's administrative policies raises questions of considerable interest to students of international administration; it may also be of use to a more general public in presenting an up-to-date picture of the worldwide activities of WHO and the lines along which the Organization itself has developed over the past ten years.

[1] Berkov, R. (1957) *The World Health Organization : A study in decentralized international administration*, Geneva and Paris

[2] Wertheimer, E. (1945) *The international secretariat. A great experiment in international administration*, Washington

[3] Crabol, J. (1951) *L'Organisation mondiale de la Santé*, Grenoble

Study Group on Histological Definitions of Cancer Types

WHO is this month convening a Study Group on Histological Definitions of Cancer Types in Oslo (24 to 28 June), for the purpose of reviewing the present situation and of advising on how the work going on in this domain in various parts of the world may best be extended and co-ordinated in the future.

Among subjects to be discussed by the Group are: priority in the selection of types of cancer for reference activity; the organization and objects of an international reference centre in histopathology ; co-ordination among international centres on the various types of histopathological material; ways whereby non-governmental organ-

[4] *Off. Rec. Wld Hlth Org.*, 1951, 30, 2

izations may make scientific contributions to this work.

Dr Harold L. Stewart of the United States National Cancer Institute is acting as WHO consultant for the meeting, after taking part in earlier preparatory work in association with the WHO Secretariat. The following experts are to form this group: Dr J. Higginson (Union of South Africa), Dr J. Knowelden (United Kingdom), Professor L. Kreyberg (Norway), Professor J. Maisin (Belgium), Professor Ch. Oberling (France), Professor Robert Scarff (United Kingdom), Dr Humberto Torloni (Brazil), Colonel F. E. Townsend (United States of America), and Dr Prem Wahi (India).

In June 1955, the Director-General of WHO called together a small group of consultants to advise him on possible lines of development of the WHO cancer programme. The consultants made a number of recommendations, one of which was that special laboratories should be asked to hold reference collections of pathological material and sections from the cancers in which they are especially competent, to be made available to other institutions on request. This new approach received a further stimulus in the WHO Executive Board, at its seventeenth session in January 1956. One of its members, Dr F. J. Brady, anxious to encourage further study of unusual distributions of various diseases, as a means of uncovering clues to their etiology, proposed that WHO should arrange for centres to collect tissue samples and to have these examined by competent pathologists.

This proposal was favourably received by the Board and the calling together of the Oslo study group is an important example of WHO's subsequent extension of its activities on cancer along the lines advocated.

People and Places

WHO Area Representative in Burma

Dr T. C. Puri, retiring Deputy Director-General of Health Services, Government of India, has been appointed WHO Area Representative in Burma. In this capacity Dr Puri will maintain contact between the Government of Burma and the WHO Regional Office in New Delhi so that WHO assistance to Burma's health programmes can be effectively implemented and developed.

At present, WHO-assisted programmes in Burma include: tuberculosis control and training of tech-

European Conference on Health Education of the Public

A European Conference on Health Education of the Public is to be held in Wiesbaden, Germany, from 27 June to 5 July 1957, under the auspices of WHO and the Federal Government of Germany, together with the Land Hesse authorities. National planning meetings have already taken place in a number of the countries to be represented, in preparation for the work of the Conference.

The aim of health work has gradually evolved over the years from the overriding preoccupation with curative aspects to the point where positive action for the prevention of disease holds an equal place. All health workers everywhere—doctors, dentists, nurses, sanitarians, etc.—are now held to have a duty to teach the people how to improve health and how to stay well, as part of their function. In introducing new health measures, the administrator nowadays relies more on the education of his public than on legal compulsion, as a surer means of securing more than the mere passive compliance the latter may elicit or of overcoming possible hostility.

The main subject for consideration by the Conference is: " How should the health worker learn to become a good health teacher ? " It will also discuss the training needs in health education of physicians, nurses and other health workers at the different stages of training.

The following countries are participating: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Morocco, Netherlands, Norway, Poland, Portugal, Spain, Sweden, Switzerland, Turkey, United Kingdom, and Yugoslavia.

nicians; health education; vital and health statistics; nutrition; environmental sanitation; malaria control; public health administration; strengthening of medical teaching facilities; medical stores management; and training of nurses.

Dr Puri, in his career as a public health worker, has occupied several distinguished professional positions. He has been Secretary of India's Central Council of Health since its inception in 1952 and a member of the governing body and executive committee of the Indian Council of Medical Research. He also served for a period of five years as honorary secretary and member of the governing body and executive committee of the Lady Hardinge Medical College and Hospital, New Delhi. Dr Puri represented India at the Joint WHO/FAO Nutrition Seminar held in the Philippines in 1955 and attended the nineteenth session of the WHO Executive Board in January 1957.

Laboratory Facilities in South-East Asia

Due to extreme climatic conditions and the scarcity of trained technical personnel many countries in South-East Asia find it hard to maintain high laboratory standards. To help governments in the Region to establish, upgrade, or maintain laboratory facilities in the field of tuberculosis WHO has recently appointed Dr Eugene Nassau, of the United Kingdom, as inter-country tuberculosis bacteriologist in the South-East Asia Region. Dr Nassau is no stranger to the area or the work, as he served in a similar capacity from 1951 to 1952.

Tuberculosis Research Appointment

Dr Ladislav Sula, of Czechoslovakia, has recently been appointed medical officer-in-charge of the WHO Tuberculosis Research Office in Copenhagen. Dr Sula, who received his M.D. in 1938 from the Masaryk University at Brno, has had extensive experience in all aspects of tuberculosis, particularly in tuberculosis bacteriology where his work has been of international importance.

Since 1955 Dr Sula has been Chief Scientific Adviser to the Ministry of Health, and in this position has been responsible for the organization of the tuberculosis control programme in Czechoslovakia which has concentrated mainly on the preventive aspect of the disease. Dr Sula has also played a vital part in the development of the Tuberculosis Research Institute in Prague.

Parasitic Diseases Survey

A survey of parasitic diseases in the North-Western area of the Federation of Rhodesia and Nyasaland has recently been initiated with WHO assistance. The plan of this project is to investigate the relative importance of parasitism and diet as a cause of ill health in the area. WHO has appointed Dr Fergus S. McCullough as a Consultant Parasitologist to undertake a six-month survey of parasitic diseases. In this work he will devote special attention to the bilharziasis problem.

Dr McCullough, who holds a Ph.D. and M.Sc. from Queen's University, Belfast, was formerly working in Ghana as a medical biologist. He has published a number of scientific reports on the epidemiology of bilharziasis and on the susceptibility of snails to the schistosome.

Bilharziasis Control in Iraq

The WHO-assisted bilharziasis control project in Iraq aims at strengthening the Government's programme for bilharziasis control by pilot studies and demonstration of control methods using the new molluscicides. In the course of this work special attention is given to snail control, treatment of patients, environmental sanitation, and health education. The project now has a new Senior Adviser in the person of Dr C. Kliht, who was formerly epidemiologist at the Qalyub Demonstration and Training Centre in Egypt and who has been transferred to Baghdad.

Nursing Advisers in Eastern Mediterranean

The new Regional Nursing Adviser in WHO's Eastern Mediterranean Regional Office, Miss Jeanette Pitcherella, of the United States of America, took up her duties on 15 May 1957. She succeeds Miss Inger Goetszche, one of whose last assignments in this post was to visit Iraq and Iran on behalf of the Organization. In Iraq she discussed the possibility of starting up a school for the training of professional nurses and, while in Iran, visited the WHO-assisted Nursing School at Rey, near Teheran, and the Maternal and Child Health Demonstration Centre, in Teheran itself. The latter institution is a joint project of the Iran Ministry of Health, WHO and UNICEF.

Miss Pitcherella, who did post-graduate work at Columbia University, New York, in nursing education and public health nursing administration, has for the past six years been working on various WHO-assisted projects. Among her previous assignments were those of chief project nurse in the Rural Public Health Demonstration Centre in El Salvador and, more recently, of Zone Nursing Adviser in Guatemala.

As Regional Nursing Adviser she will plan and initiate regional nursing programmes for WHO; and will, upon request, advise governments and local health authorities on nursing problems. Miss Pitcherella will also be responsible for the examination of requests for assistance on nursing, decisions on programme priorities, and for the general supervision of WHO nursing staff, in the Eastern Mediterranean Region.

Taiwan Nursing School

In Taiwan WHO has been helping to improve standards of nursing education and nursing services through its assistance to the Government in the setting up of a Collegiate School of Nursing. Recently, Miss Virginia A. Jones, Director of the School of Nursing at the University of Hawaii, was appointed WHO Nursing Consultant to the National Taiwan University School of Nursing at Taipeh. Her first task will be to consult with the Government and the WHO Nursing Education team already in Taiwan, on plans for the new School of Nursing. Miss Jones will also give advice on in-service training programmes for graduate nurses and suggest methods of improving facilities for the training of nurse teachers and supervisors.

Before taking up her appointment in Taiwan, where she will remain for six months, Miss Jones will visit Japan and Korea to acquaint herself with nursing methods in those countries. Miss Jones has had considerable experience of nursing education in the United States of America, where she was formerly educational secretary of the National Organization for Public Health Nursing in New York.

Appointment to Sudan Training Centre

Dr Hans Beringer, of Germany, has been appointed senior WHO adviser to the tuberculosis demonstration and training centre at Wadi Medani in Sudan. The other members of the WHO team at the training centre are a laboratory technician, an X-ray technician, and a public health nurse. The principal activities of the centre include: (*a*) study of the epidemiology and prevalence of tuberculosis in the Gezira irrigation area; (*b*) training staff for the tuberculosis control services; (*c*) establishment of a school for tuberculosis health visitors; and (*d*) provision of services for the town.

Dr Beringer, who has wide experience of tuberculosis control work in Germany, Switzerland and Indonesia, received his M.D. from the University of Munich in 1937. Before joining WHO he worked on the staff of the General Secretary of the German Control Committee on Tuberculosis.

Mauritius Tuberculosis Control Project

WHO has already aided the Government of Mauritius in the establishment of a comprehensive tuberculosis control service. As an initial step in developing this service, a survey will be made of sample groups of the population. After this has been completed, assistance will then be given in the organization of a tuberculosis centre, in which special emphasis will be placed on laboratory work, epidemiology, standard methods of diagnosis, home visiting services, and relevant statistical procedures. In continuation of the technical help already given by WHO in 1956, Dr Jean Goujou has been appointed WHO team leader as from May 1957. Dr Goujou, who took his M.D. from the Université de Lyon, has been chief of the tuberculosis section of the Ministry of Public Health in Tunisia since 1947. In addition to Dr Goujou, the WHO team in Mauritius consists of an epidemiologist, a statistician, two public health nurses, an X-ray technician and a laboratory technician.

Health Education Adviser for Indonesia

Miss Madeleine McCain has been appointed WHO Health Education Adviser to the Government of Indonesia. Among her duties will be the task of assisting in the organization and conduct of training courses in health education and methods and in the planning and development of health education services. Miss McCain comes to WHO from the University of North Carolina, where she was Assistant Professor of Health Education in the Woman's College. Earlier, when working with the North Carolina Board of Health, Miss McCain was in charge of one of the first pilot demonstration training projects in health education established in the State.

Environmental Sanitation

Mr Y. M. Liu, from Taiwan, has been appointed WHO Adviser in Sanitary Engineering to the Government of Pakistan. He will first undertake a three-month survey of Lahore, after which a comprehensive project will be developed under his leadership for the supply of water and the construction of sewage systems throughout West Pakistan. Mr Liu obtained a degree in civil engineering at the University of Shanghai and later worked for the national health administration in Nanking. He was awarded a Rockefeller Foundation fellowship, which enabled him to carry out post-graduate work at Harvard University. Before joining WHO, Mr Liu was

Vice-Commissioner of the Department of Reconstruction of Taiwan.

Rural Hygiene in South East Asia and the Western Pacific

A WHO consultant will shortly visit the various countries of the South East Asia and Western Pacific Regions, for the purpose of helping to assess their rural hygiene problems at first hand. This work is in preparation for a Conference on Rural Hygiene, to be held in Ceylon towards the end of October of this year, in which the public health administrators, various categories of senior supervisors of rural health work, sanitary engineers, and teachers of public health will be taking part.

The main purpose of this Conference is to define the rural health needs of the two Regions and to devise methods whereby these needs may be met within the social and economic framework of the countries concerned.

Dr Estella Warner, late of the United States Public Health Service, has been chosen by WHO to act as consultant. Apart from her long record of distinguished service in her own country—as an expert in maternal and child health, the organization of local health services and general public health administration—Dr Warner has in the past given signal service to various other countries, including Lebanon and India. Recently she held the post of consultant in public health administration to the United States Operation Mission in Ceylon.

International Non-Proprietary Names for Pharmaceutical Preparations

Every year large numbers of new medicinal substances are introduced into the materia medica. This involves a certain hazard to public health by reason of the relatively short time that elapses between the discovery of a new substance and its introduction into therapeutics in a large number of countries. In these circumstances, it is important that no time should be lost in devising methods of assay and in obtaining essential information on the toxicity, pharmacological and clinical action, and side effects of the new substances.

Another problem arises in nomenclature, by the creation, on the one hand, of proprietary names for use by the manufacturer, and, on the other, of non-proprietary, or " open ", names for use by national authorities or the authors of scientific papers, pharmacopoeias and other works of specification. For the latter purpose, every attempt should be made to achieve uniformity, in order to avoid the confusion likely to arise where a variety of non-proprietary names exists for the same medicinal substance. In the interests of international public health and commerce, the World Health Organization has been asked to play a part in co-ordinating the efforts which many countries have already made to lay down a nomenclature for important new pharmaceutical preparations. In the case of addiction-producing drugs, a uniform nomenclature greatly facilitates their international control.

It must be recognized that, in this work, it is clearly impossible to select names of reasonable length which, after sufficient search, would not be found to conflict with existing rights to names—registered or unregistered—in one or another country. The operation of the programme must therefore be based on good will.

It is important to afford governments and other interested parties an opportunity of checking whether a proposed name conflicts with trade or other names in their particular country, account being taken of differences in trade-mark legislation among the 84 Member States and 4 Associate Members of WHO.

A procedure for the selection of recommended international non-proprietary names has already been adopted, in accordance

with resolution WHA3.11 of the Third World Health Assembly and resolution EB15.R7 of the WHO Executive Board.[1] Under this procedure, efforts are made to obtain suggestions for non-proprietary names by submitting proposals to the members of the WHO Expert Advisory Panel on the International Pharmacopoeia and Pharmaceutical Preparations designated for this purpose. A Sub-Committee on Non-Proprietary Names of the WHO Expert Committee on the International Pharmacopoeia is meeting in Geneva from 13 to 15 June 1957. The main purpose of this meeting is to examine the names proposed by different authorities for a number of new medicinal substances and to select names on the basis of these suggestions. In addition, ways and means for effecting a rapid selection of names for narcotic drugs are to be discussed. Comments on and objections to names previously proposed and arrangements whereby this work may be facilitated are also to be examined during the course of the meeting.

It is noteworthy that the names already suggested by WHO have been well received in the various countries. Four lists of proposed international non-proprietary names have been published;[2] a fifth appears below, and it is expected that a further list will be issued after the June meeting.

PROPOSED INTERNATIONAL NON-PROPRIETARY NAMES (*Prop. I.N.N.*): LIST 5

In accordance with Article 3 of the Procedure for the Selection of Recommended International Non-proprietary Names for Pharmaceutical Preparations, notice is hereby given that the following names are under consideration by the World Health Organization as Proposed International Non-Proprietary Names.

Comments on, or formal objections to, these proposed names may be forwarded by any person to the Pharmaceutical Section of the World Health Organization within four months from 1 August 1957.

The inclusion of a name in this list does not imply any recommendation for the use of the substance in medicine or pharmacy.

Proposed International Non-Proprietary Name (Latin, English)	*Chemical Name or Description*
acetylmethadolum acetylmethadol	6-dimethylamino-4,4-diphenyl-3-acetoxyheptane
alphacetylmethadolum alphacetylmethadol	α-6-dimethylamino-4,4-diphenyl-3-acetoxyheptane
alphamethadolum alphamethadol	α-6-dimethylamino-4,4-diphenyl-3-heptanol
anileridinum anileridine	1-[2-(*p*-aminophenyl)-ethyl]-4-phenylpiperidine-4-carboxylic acid ethyl ester
betacetylmethadolum betacetylmethadol	β-6-dimethylamino-4,4-diphenyl-3-acetoxyheptane
betamethadolum betamethadol	β-6-dimethylamino-4,4-diphenyl-3-heptanol
betaprodinum betaprodine	β-1,3-dimethyl-4-phenyl-4-propionoxypiperidine

[1] For a full description of this procedure see *Chron. Wld Hlth Org.*, 1956, **10**, 26.

[2] See *Chron. Wld Hlth Org.*, 1953, **7**, 297; 1954, **8**, 216, 313; 1956, **10**, 28. A list of recommended international non-proprietary names was published in *Chron. Wld Hlth Org.*, 1955, **9**, 185.

Proposed International Non-Proprietary Name (Latin, English)	*Chemical Name or Description*
desomorphinum desomorphine	dihydrodesoxymorphine
dimepheptanolum dimepheptanol	6-dimethylamino-4,4-diphenyl-3-heptanol
dioxaphetyli butyras dioxaphetyl butyrate	4-morpholino-2,2-diphenyl ethyl butyrate
dipipanonum dipipanone	4,4-diphenyl-6-piperidino-3-heptanone
ethoheptazinum ethoheptazine	1-methyl-4-carbethoxy-4-phenylhexamethyleneimine
hydroxypethidinum hydroxypethidine	1-methyl-4-(3-hydroxyphenyl)-piperidine-4-carboxylic acid ethyl ester
metethoheptazinum metethoheptazine	1,3-dimethyl-4-carbethoxy-4-phenylhexamethyleneimine
metheptazinum metheptazine	1,2-dimethyl-4-carbomethoxy-4-phenylhexamethyleneimine
methyldesorphinum methyldesorphine	6-methyl-Δ^6-desoxymorphine
methyldihydromorphinum methyldihydromorphine	6-methyldihydromorphine
myrophinum myrophine	myristyl ester of benzylmorphine
normethadonum normethadone	4,4-diphenyl-6-dimethylamino-3-hexanone
oxpheneridinum oxpheneridine	1-(2-phenyl-2-hydroxyethyl)-4-carbethoxy-4-phenylpiperidine
oxymorphonum oxymorphone	dihydrohydroxymorphinone
pheneridinum pheneridine	1-(2-phenylethyl)-4-carbethoxy-4-phenylpiperidine
phenomorphanum phenomorphan	3-hydroxy-*N*-phenethylmorphinan
proheptazinum proheptazine	1,3-dimethyl-4-phenyl-4-propionoxyhexamethyleneimine
properidinum properidine	1-methyl-4-phenylpiperidine-4-carboxylic acid, isopropyl ester
propoxyphenum propoxyphene	4-dimethylamino-1,2-diphenyl-3-methyl-2-propionoxybutane
thebaconum thebacon	acetyldihydrocodeinone